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S. HRG. 107–524, Part II

# AIR QUALITY IN NEW YORK CITY AFTER THE SEPTEMBER 11, 2001 ATTACKS

## FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON CLEAN AIR, WETLANDS, AND CLIMATE CHANGE

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

AIR QUALITY IN NEW YORK CITY AFTER THE SEPTEMBER 11, 2001 ATTACKS

FEBRUARY 11, 2002—NEW YORK CITY

Printed for the use of the Committee on Environment and Public Works

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**U.S. Environmental Protection Agency (EPA)**
**Daily Summary**
**Friday, December 21, 2001**

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed air monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Results as of 5:00 p.m. on 12/21**

**Air: Fixed Monitors in New York:**
Asbestos - EPA analyzed 87 samples taken in and around ground zero from December 17 through December 19. In addition, EPA sampled for asbestos at three lower Manhattan locations on December 16 and 17th. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 3,755, with 29 samples above the standard (27 of these were collected prior to September 30, one was collected on October 9 and the other on November 27).

**Air: Fixed Monitors outside lower Manhattan:**
Asbestos - Samples were collected from additional asbestos monitors at Public School 154 (33 East 135th St., Bronx), Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on December 16 and 17th. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-eight air samples collected on December 18 and 19th were analyzed for asbestos. All were below the school re-entry standard.

**Air (Metals)** - A total of ten air samples were collected at the landfill on December 3 and 5th . Analysis found all metals at either non-detectable levels or well below applicable standards, guidelines or permissible limits established by EPA and OSHA. Final analysis of these samples showed that chromium was not present.

**Ambient Air Samples:**
**Dioxin** - Thirty samples were collected at various lower Manhattan locations on November 19, 21 and 27th and analyzed for dioxin/furans. Three samples, all collected at Location B, showed

results above the level at which EPA would take some type of action to reduce people's exposure based on a 30-year exposure. None of the samples were above the EPA action guideline adjusted to a one-year exposure. These levels do not pose a short-term health affect but should be monitored if they persist for a long period of time.

**Silicates** - Twenty air samples were collected in lower Manhattan on December 6 and December 11 and analyzed for silicates. None of the samples detected the presence of silicates.

**Metals** - A total of ten air samples were collected in lower Manhattan on December 6. Analysis found all metals at either non-detectable levels or below applicable standards, guidelines or permissible limits established by EPA and OSHA. Final analysis of these samples showed that chromium was not present.

**PCBs** - Fifty air samples were collected in lower Manhattan on November 15, 19, 21, 27th and December 4 and analyzed for PCBs. PCBs were not detected in any of the samples.

**PAHs** - A total of 30 samples were collected on November 27 and December 4 and 6th and analyzed for PAHs. PAHs were not detected in any of these samples.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, December 21, 2001**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 17, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 18, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 18, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 19, 0001 - 1200)

All 19 samples analyzed were below the TEM AHERA standard.
3 samples (Locations N, H, and S-duplicate) were not collected due to equipment malfunctions.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 18, 0810 - 2208) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-2) was not collected due to equipment malfunction.

Fresh Kills (Dec 19, 0823 - 2228) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills Landfill (Dec 3) - Metals

5 samples collected (Locations O-17, O-18, O-19, P-5, and P-8).
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills Landfill (Dec 5) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

Ambient Air Sampling Locations

NYC / ER (Nov 19) - Dioxin

1 of the 10 samples (Location B) collected was above the EPA Removal Action guidelines (based on a 30-year exposure).
No samples were identified above the EPA Removal Action level guidelines adjusted to a 1-year exposure duration.
Levels do not pose a short-term health concern. However, elevated sufficiently to be of concern for long-term (chronic exposure).

NYC / ER (Nov 21) - Dioxin

1 of the 10 samples (Location B) collected was above the EPA Removal Action guidelines (based on a 30-year exposure).
No samples were identified above the EPA Removal Action level guidelines adjusted to a 1-year exposure duration.
Levels do not pose a short-term health concern. However, elevated sufficiently to be of concern for long-term (chronic exposure).

NYC / ER (Nov 27) - Dioxin

1 of the 10 samples (Location B) collected was above the EPA Removal Action guidelines (based on a 30-year exposure).
No samples were identified above the EPA Removal Action level guidelines adjusted to a 1-year exposure duration.
Levels do not pose a short-term health concern. However, elevated sufficiently to be of concern for long-term (chronic exposure).

NYC / ER (Dec 6) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

NYC / ER (Nov 27) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Dec 4) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Dec 6) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Nov 15) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Nov 19) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Nov 21) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Nov 27) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Dec 4) - PCBs

Trace amounts detected in 1 of 10 samples well below levels of concern.
9 samples analyzed did not detect any PCBs.
All levels were below the EPA Removal Action level guidelines.

NYC / ER (Dec 6) - Silicates

All 9 samples analyzed did not detect any silicates.
1 sample (Location 3B) was not collected due to a damaged filter.

NYC / ER (Dec 11) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Dec 16) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Coast Guard Building: Battery Park (Site 3)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 8 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Dec 17) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Coast Guard Building: Battery Park (Site 3)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 6 samples were collected from these monitoring sites.

All of the samples were below the TEM AHERA standard.
2 samples (Sites 7 and 9) were not collected due to equipment malfunctions.

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/15/01**

| Sample No. | WG-6301-1P | | 11281 | | 11282 | | 11283 | | 11284 | | 11285 | | 11286 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | Loc 3B | | C | |
| Sample Volume (L) | 0 | | 7515 | | 7515 | | 7350 | | 7365 | | 7350 | | 7365 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of MoCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of DiCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of TrCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of TeCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of PeCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of HxCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of HpCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of OcCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Sum of NoCBs | U | 10.0 | U | 1.33 | U | 1.33 | U | 1.36 | U | 1.36 | U | 1.36 | U | 1.36 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04138

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/14/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/15/01**

| Sample No. | 11287 | | 11288 | | 11289 | | 11290 | | 11265 | | 11266 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7305 | | 7275 | | 7290 | | 7245 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.38 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | | | 0 | | 0 | |

COC 04138

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/19/01**

| Sample No. | WG6312-1 | | | 11541 | | | 11542 | | | 11543 | | | 11544 | | | 11545 | | | 11546 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | B-Church & Dey St. | | | Loc 3B Church & Vesey | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7260 | | | 7502 | | | 7125 | | | 7275 | | | 7260 | | | 7290 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0027 | U | 0.0005 | 0.0028 | 0.0008 J | | 0.0027 | U | | 0.0028 | 0.0002 J | | 0.0027 |
| 12378-PeCDD | U | 0.0022 | 0.10 | U | | 0.014 | U | | 0.013 | U | 0.0015 | 0.014 | 0.0026 J | | 0.014 | 0.0011 J | | 0.014 | 0.0007 J | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.013 | 0.0019 J | | 0.014 | 0.0022 J | | 0.014 | 0.0009 J | | 0.014 | 0.0009 J | | 0.014 |
| 123678-HxCDD | 0.0059 J | | 0.10 | U | | 0.014 | U | | 0.013 | 0.0034 J | | 0.014 | 0.0055 J | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.013 | 0.0020 J | | 0.014 | 0.0032 J | | 0.014 | 0.0014 J | | 0.014 | 0.0011 J | | 0.014 |
| 1234678-HpCDD | 0.0061 J | | 0.10 | U | | 0.014 | U | 0.0008 | 0.013 | 0.0132 J | | 0.014 | 0.0232 | | 0.014 | 0.0084 J | | 0.014 | U | | 0.014 |
| OCDD | 0.0330 J | | 0.20 | U | | 0.028 | U | | 0.027 | 0.0197 J | | 0.028 | 0.0355 | | 0.027 | U | | 0.028 | U | | 0.027 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0027 | 0.0015 J | | 0.0028 | U | 0.0026 | 0.0027 | 0.0009 J | | 0.0028 | U | 0.0007 | 0.0027 |
| 12378-PeCDF | U | 0.0030 | 0.10 | 0.0002 J | | 0.014 | U | | 0.013 | 0.0018 J | | 0.014 | U | 0.0034 | 0.014 | U | 0.0013 | 0.014 | U | 0.0009 | 0.014 |
| 23478-PeCDF | U | 0.0022 | 0.10 | U | 0.0001 | 0.014 | U | 0.0001 | 0.013 | 0.0027 J | | 0.014 | 0.0051 J | | 0.014 | 0.0015 J | | 0.014 | 0.0011 J | | 0.014 |
| 123478-HxCDF | U | 0.0014 | 0.10 | U | 0.0001 | 0.014 | U | | 0.013 | 0.0024 J | | 0.014 | 0.0064 J | | 0.014 | 0.0020 J | | 0.014 | 0.0017 J | | 0.014 |
| 123678-HxCDF | 0.0021 J | | 0.10 | U | 0.0001 | 0.014 | 0.0002 J | | 0.013 | U | 0.0020 | 0.014 | U | 0.0036 | 0.014 | U | 0.0014 | 0.014 | U | 0.0011 | 0.014 |
| 234678-HxCDF | 0.0019 J | | 0.10 | U | | 0.014 | U | 0.0001 | 0.013 | 0.0023 J | | 0.014 | 0.0048 J | | 0.014 | 0.0014 J | | 0.014 | U | 0.0010 | 0.014 |
| 123789-HxCDF | U | 0.0026 | 0.10 | 0.0002 J | | 0.014 | U | | 0.013 | U | 0.0007 | 0.014 | 0.0015 J | | 0.014 | U | | 0.014 | 0.0004 J | | 0.014 |
| 1234678-HpCDF | 0.0026 J | | 0.10 | U | | 0.014 | U | | 0.013 | 0.0070 J | | 0.014 | 0.0177 | | 0.014 | 0.0058 J | | 0.014 | 0.0046 J | | 0.014 |
| 1234789-HpCDF | 0.0010 J | | 0.10 | 0.0002 J | | 0.014 | U | | 0.013 | 0.0008 J | | 0.014 | 0.0020 J | | 0.014 | U | 0.0007 | 0.014 | U | 0.0006 | 0.014 |
| OCDF | U | 0.0053 | 0.20 | U | 0.0005 | 0.028 | U | | 0.027 | 0.0040 J | | 0.028 | 0.0149 J | | 0.027 | 0.0047 J | | 0.028 | 0.0046 J | | 0.027 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | 0.0004 | | | 0.0011 | | | 0.158 | | | 0.197 | | | 0.0670 | | | 0.0474 | | |
| Total PeCDDs | U | | | 0.0006 | | | U | | | 0.116 | | | 0.150 | | | 0.0626 | | | 0.0282 | | |
| Total HxCDDs | 0.0059 | | | 0.0009 | | | 0.0009 | | | 0.127 | | | 0.144 | | | 0.0754 | | | 0.0437 | | |
| Total HpCDDs | 0.0078 | | | 0.0013 | | | U | | | 0.0292 | | | 0.0508 | | | 0.0182 | | | 0.0129 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | 0.0743 | | | 0.0754 | | | 0.0307 | | | 0.0167 | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0316 | | | 0.0362 | | | 0.0107 | | | 0.0082 | | |
| Total HxCDFs | 0.0040 | | | U | | | 0.0002 | | | 0.0152 | | | 0.0321 | | | 0.0071 | | | 0.0085 | | |
| Total HpCDFs | 0.0026 | | | 0.0003 | | | 0.0002 | | | 0.0090 | | | 0.0256 | | | 0.0077 | | | 0.0054 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0011 | | | 0.0000 | | | 0.0001 | | | 0.0030 | | | 0.0075 | | | 0.0021 | | | 0.0016 | | |
| TEQ (ND=1/2) | 0.0026 | | | 0.0002 | | | 0.0003 | | | 0.0034 | | | 0.0083 | | | 0.0027 | | | 0.0016 | | |

COC# 04873
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 12/17/01

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 11/15/01

| Sample No. | 11547 | | | 11548 | | | 11549 | | | 11550 | | | 11303 | | | 11304 | | | 11305 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | | Lot Blank | | |
| Volume (Liters) | 7305 | | | 7335 | | | 7155 | | | 7350 | | | 0 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | 0.0002 | 0.0027 | U | | 0.020 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | 0.007J | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | 0.0001 | 0.014 | U | 0.0004 | 0.014 | U | | 0.014 | U | 0.0004 | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | 0.0012 | 0.014 | 0.0047 J | | 0.10 | U | 0.0050 | 0.10 | U | 0.0019 | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0005 J | | 0.014 | U | | 0.10 | U | | 0.10 | U | 0.0004 | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0044 J | | 0.10 | U | 0.0050 | 0.10 | 0.0040 J | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.027 | U | | 0.026 | U | | 0.027 | U | | 0.20 | 0.0255 J | | 0.20 | 0.0225 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | 0.0003 J | | 0.0027 | U | | 0.020 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | U | 0.0004 | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0005 | 0.014 | U | 0.0006 | 0.10 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | 0.0006 J | | 0.014 | U | | 0.10 | 0.0003 J | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | 0.0004 J | | 0.014 | U | | 0.10 | U | 0.0006 | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | 0.0005 J | | 0.014 | U | | 0.10 | 0.0004 J | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | 0.0005 | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0012 J | | 0.10 | 0.0010 J | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| OCDF | U | 0.0004 | 0.027 | 0.0005 J | | 0.027 | U | | 0.026 | 0.0008 J | | 0.027 | U | 0.0026 | 0.20 | U | 0.0024 | 0.20 | 0.0019 J | | 0.20 |
| Total TCDDs | 0.0023 | | | 0.0005 | | | 0.0012 | | | 0.0260 | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | 0.0007 | | | 0.0174 | | | U | | | 0.0007 | | | U | | |
| Total HxCDDs | 0.0002 | | | U | | | U | | | 0.0240 | | | 0.0047 | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | 0.0004 | | | 0.0037 | | | 0.0069 | | | 0.0022 | | | 0.0040 | | |
| Total TCDFs | 0.0001 | | | U | | | U | | | 0.0107 | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0046 | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0002 | | | 0.0039 | | | U | | | 0.0007 | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | 0.0003 | | | U | | | 0.0012 | | | U | | |
| Total Adjusted Conc. | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0003 | | | 0.0005 | | | 0.0005 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0002 | | | 0.0002 | | | 0.0001 | | | 0.0005 | | | 0.0014 | | | 0.0009 | | | 0.0011 | | |

COC# 04973

11-19-01dioair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/19/01**

| Sample No. | WG-6312-1P | | 11541 | | 11542 | | 11543 | | 11544 | | 11545 | | 11546 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | Loc 3B | | C | |
| Sample Volume (L) | 0 | | 7260 | | 7502 | | 7125 | | 7275 | | 7260 | | 7290 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of MoCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of DiCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of TrCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of TeCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of PeCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of HxCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of HpCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of OcCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Sum of NoCBs | U | 10.0 | U | 1.38 | U | 1.33 | U | 1.40 | U | 1.37 | U | 1.38 | U | 1.37 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04873

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/17/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/19/01**

| Sample No. | 11547 | | 11548 | | 11549 | | 11550 | | 11303 | | 11304 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7305 | | 7335 | | 7155 | | 7350 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.36 | U | 1.40 | U | 1.36 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | | | 0 | | 0 | |

COC# 04873

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/21/01**

| Sample No. | WG6320 | | | 11311 | | | 11312 | | | 11313 | | | 11314 | | | 11315 | | | 11316 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7200 | | | 6960 | | | 7200 | | | 7200 | | | 7200 | | | 7200 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0029 | 0.0004 J | | 0.0028 | 0.0005 J | | 0.0028 | 0.0015 J | | 0.0028 | U | 0.0008 | 0.0028 |
| 12378-PeCDD | 0.0031 J | | 0.10 | 0.0002 J | | 0.014 | U | 0.0003 | 0.014 | 0.0012 J | | 0.014 | 0.0013 J | | 0.014 | 0.0034 J | | 0.014 | 0.0017 J | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | 0.0012 | 0.014 | 0.0013 J | | 0.014 | 0.0030 J | | 0.014 | 0.0013 J | | 0.014 |
| 123678-HxCDD | U | 0.0056 | 0.10 | U | | 0.014 | U | 0.0007 | 0.014 | U | | 0.014 | U | | 0.014 | 0.0060 J | | 0.014 | U | | 0.014 |
| 123789-HxCDD | U | 0.0047 | 0.10 | U | | 0.014 | U | 0.0004 | 0.014 | 0.0018 J | | 0.014 | 0.0020 J | | 0.014 | 0.0042 J | | 0.014 | 0.0019 J | | 0.014 |
| 1234678-HpCDD | 0.0093 J | | 0.10 | U | 0.0011 | 0.014 | U | | 0.014 | 0.0103 J | | 0.014 | 0.0105 J | | 0.014 | 0.0223 | | 0.014 | 0.0111 J | | 0.014 |
| OCDD | 0.0322 J | | 0.20 | U | | 0.028 | U | | 0.029 | U | | 0.028 | U | | 0.028 | 0.0316 | | 0.028 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0029 | U | 0.0008 | 0.0028 | U | 0.0015 | 0.0028 | U | 0.0042 | 0.0028 | 0.0017 J | | 0.0028 |
| 12378-PeCDF | U | 0.0032 | 0.10 | U | | 0.014 | U | 0.0002 | 0.014 | 0.0012 J | | 0.014 | 0.0019 J | | 0.014 | 0.0054 J | | 0.014 | 0.0024 J | | 0.014 |
| 23478-PeCDF | 0.0029 J | | 0.10 | U | 0.0002 | 0.014 | U | | 0.014 | 0.0018 J | | 0.014 | 0.0022 J | | 0.014 | 0.0051 J | | 0.014 | 0.0017 J | | 0.014 |
| 123478-HxCDF | U | 0.0038 | 0.10 | U | | 0.014 | 0.0002 J | | 0.014 | 0.0022 J | | 0.014 | U | 0.0031 | 0.014 | U | 0.0079 | 0.014 | 0.0033 J | | 0.014 |
| 123678-HxCDF | U | 0.0034 | 0.10 | 0.0002 J | | 0.014 | U | | 0.014 | U | 0.0017 | 0.014 | U | 0.002 | 0.014 | U | 0.0047 | 0.014 | 0.0021 J | | 0.014 |
| 234678-HxCDF | U | 0.0031 | 0.10 | U | | 0.014 | U | 0.0002 | 0.014 | 0.0019 J | | 0.014 | 0.0021 J | | 0.014 | 0.0044 J | | 0.014 | 0.0016 J | | 0.014 |
| 123789-HxCDF | U | 0.0036 | 0.10 | U | | 0.014 | U | 0.0002 | 0.014 | U | 0.0005 | 0.014 | U | 0.0008 | 0.014 | 0.0015 J | | 0.014 | 0.0005 J | | 0.014 |
| 1234678-HpCDF | 0.0039 J | | 0.10 | U | | 0.014 | U | | 0.014 | 0.0056 J | | 0.014 | 0.0064 J | | 0.014 | 0.0155 | | 0.014 | 0.0060 J | | 0.014 |
| 1234789-HpCDF | 0.0026 J | | 0.10 | 0.0003 J | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0006 J | | 0.014 | 0.0015 J | | 0.014 | 0.0007 J | | 0.014 |
| OCDF | 0.0086 J | | 0.20 | U | 0.0011 | 0.028 | U | | 0.029 | 0.0029 J | | 0.028 | 0.0035 J | | 0.028 | 0.064 J | | 0.028 | 0.0028 J | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | U | | | U | | | 0.142 | | | 0.132 | | | 0.283 | | | 0.1220 | | |
| Total PeCDDs | 0.0031 | | | 0.0002 | | | 0.0003 | | | 0.0981 | | | 0.098 | | | 0.164 | | | 0.0183 | | |
| Total HxCDDs | U | | | U | | | U | | | 0.102 | | | 0.0974 | | | 0.210 | | | 0.0752 | | |
| Total HpCDDs | 0.0093 | | | 0.0007 | | | 0.0019 | | | 0.0238 | | | 0.0234 | | | 0.0495 | | | 0.0236 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | 0.0468 | | | 0.0346 | | | 0.0936 | | | 0.0371 | | |
| Total PeCDFs | 0.0029 | | | 0.0002 | | | U | | | 0.230 | | | 0.0205 | | | 0.0625 | | | 0.0201 | | |
| Total HxCDFs | U | | | 0.0002 | | | 0.0002 | | | 0.0156 | | | 0.0136 | | | 0.0392 | | | 0.0207 | | |
| Total HpCDFs | 0.0039 | | | 0.0009 | | | 0.0008 | | | 0.0065 | | | 0.0093 | | | 0.0224 | | | 0.0076 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0032 | | | 0.0000 | | | 0.0000 | | | 0.0027 | | | 0.0031 | | | 0.0083 | | | 0.0032 | | |
| TEQ (ND=1/2) | 0.0048 | | | 0.0003 | | | 0.0003 | | | 0.0033 | | | 0.0041 | | | 0.0100 | | | 0.0036 | | |

COC# 04875
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 12/19/01

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

11-21-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/21/01**

| Sample No. | 11317 | | | 11318 | | | 11319 | | | 11320 | | | 11323 | | | 11321 | | | 11322 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank 6078[1] | | | Lot Blank 13195[2] | | |
| Volume (Liters) | 7200 | | | 7200 | | | 6960 | | | 6975 | | | 0 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.0028 | U | | 0.0029 | U | | 0.0029 | U | | 0.020 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | 0.0002 J | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0008 | 0.10 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0058 J | | 0.10 | 0.0029J | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0017 | 0.10 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0060 J | | 0.10 | 0.0073J | | 0.10 | U | 0.0058 | 0.10 |
| OCDD | U | | 0.028 | U | | 0.028 | U | | 0.029 | U | | 0.029 | U | | 0.20 | 0.0294J | | 0.20 | 0.0284 J | | 0.20 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.0028 | U | | 0.0028 | U | | 0.0029 | U | | 0.0029 | U | | 0.020 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0014 J | | 0.10 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | 0.0001 J | | 0.014 | U | 0.0001 | 0.014 | 0.0001 J | | 0.014 | 0.0002 J | | 0.014 | U | 0.0011 | 0.10 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | 0.0009 J | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | 0.0001 | 0.014 | 0.0001 J | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | 0.0001 J | | 0.014 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0022 J | | 0.10 | U | 0.0017 | 0.10 | U | 0.0021 | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 | U | | 0.10 |
| OCDF | 0.0007 J | | 0.028 | 0.0005 J | | 0.028 | U | 0.0006 | 0.029 | 0.0008 J | | 0.029 | U | 0.0054 | 0.20 | 0.0040J | | 0.20 | U | 0.0046 | 0.20 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | 0.0010 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | 0.0002 | | | U | | | U | | | 0.0005 | | | U | | | U | | |
| Total HxCDDs | 0.0004 | | | 0.0002 | | | U | | | 0.0006 | | | 0.0058 | | | 0.0029 | | | U | | |
| Total HpCDDs | 0.0016 | | | 0.0009 | | | 0.0014 | | | 0.0021 | | | 0.0098 | | | 0.0105 | | | U | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | U | | | 0.0004 | | | U | | | U | | |
| Total PeCDFs | U | | | 0.0002 | | | U | | | U | | | 0.0014 | | | U | | | U | | |
| Total HxCDFs | 0.0002 | | | 0.0002 | | | 0.0002 | | | U | | | 0.0014 | | | U | | | 0.0009 | | |
| Total HpCDFs | 0.0003 | | | 0.0003 | | | 0.0005 | | | 0.0004 | | | 0.0022 | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0007 | | | 0.0004 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0002 | | | 0.0002 | | | 0.0002 | | | 0.0003 | | | 0.0020 | | | 0.0016 | | | 0.0015 | | |

COC# 04875

[1] Lot 6078 used for samples 11311,11312, and 11313
[2] Lot 13195 used for samples 11314 through 11320

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/21/01**

| Sample No. | WG-6320-1P | | 11311 | | 11312 | | 11313 | | 11314 | | 11315 | | 11316 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 7200 | | 6960 | | 7200 | | 7200 | | 7200 | | 7200 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of MoCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of DiCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TrCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TeCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of PeCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HxCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HpCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of OcCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of NoCBs | U | 10.0 | U | 1.39 | U | 1.44 | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04875

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/18/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/21/01**

| Sample No. | 11317 | | 11318 | | 11319 | | 11320 | | 11321 | | 11322 | | 11323 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Lot Blank 6078[1] | | Lot Blank 13195[2] | | Field Blank | |
| Sample Volume (L) | 7200 | | 7200 | | 6960 | | 6860 | | 0. | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.39 | U | 1.39 | U | 1.44 | U | 1.43 | U | 10.0 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04875

[1] Lot 6078 used for samples 11311,11312, and 11313
[2] Lot 13195 used for samples 11314 through 11320

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/27/01**

| Sample No. | WG6323-1 | | | 05621 | | | 05622 | | | 05623 | | | 05624 | | | 05625 | | | 05626 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6825 | | | 7200 | | | 6825 | | | 7200 | | | 7200 | | | 7200 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0029 | U | | 0.0028 | 0.0004 J | | 0.0029 | U | 0.0005 | 0.0028 | 0.0009 J | | 0.0028 | U | 0.0004 | 0.0028 |
| 12378-PeCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0013 J | | 0.015 | 0.0022 J | | 0.014 | 0.0032 J | | 0.014 | 0.0013 J | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.015 | U | 0.0017 | 0.014 | 0.0028 J | | 0.014 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.015 | U | 0.0030 | 0.014 | 0.0047 J | | 0.014 | 0.0018 J | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.015 | U | 0.0015 | 0.014 | U | 0.0039 | 0.014 | 0.0015 J | | 0.014 |
| 1234678-HpCDD | 0.0103 J | | 0.10 | 0.0137 J | | 0.015 | 0.0056 J | | 0.014 | 0.0094 J | | 0.015 | 0.0115 J | | 0.014 | 0.0170 | | 0.014 | 0.0092 J | | 0.014 |
| OCDD | 0.0632 J | | 0.20 | 0.0898 | | 0.029 | 0.0449 | | 0.028 | 0.0454 | | 0.029 | 0.0399 | | 0.028 | 0.0452 | | 0.028 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | | 0.0029 | U | | 0.0028 | 0.0005 J | | 0.0029 | 0.0009 J | | 0.0028 | 0.0012 J | | 0.0028 | 0.0007 J | | 0.0028 |
| 12378-PeCDF | 0.0018 J | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0008 J | | 0.015 | 0.0011 J | | 0.014 | 0.0019 J | | 0.014 | U | 0.0011 | 0.014 |
| 23478-PeCDF | 0.0015 J | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0006 J | | 0.015 | U | 0.0011 | 0.014 | 0.0014 J | | 0.014 | 0.0007 J | | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0017 J | | 0.015 | 0.0025 J | | 0.014 | 0.0042 J | | 0.014 | 0.0019 J | | 0.014 |
| 123678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0010 J | | 0.015 | U | 0.0016 | 0.014 | 0.0025 J | | 0.014 | U | 0.0010 | 0.014 |
| 234678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | 0.0016 | 0.015 | 0.0015 J | | 0.014 | 0.0022 J | | 0.014 | 0.0010 J | | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | 0.0012 | 0.014 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | 0.0024 J | | 0.015 | U | | 0.014 | 0.0063 J | | 0.015 | 0.0089 J | | 0.014 | 0.0152 | | 0.014 | 0.0058 J | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | 0.0022 | 0.014 | U | | 0.014 |
| OCDF | U | | 0.29 | 0.0134 J | | 0.029 | 0.0065 J | | 0.028 | 0.0105 J | | 0.029 | 0.0131 J | | 0.028 | 0.0176 J | | 0.028 | 0.0082 J | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | U | | | U | | | 0.0301 | | | 0.0401 | | | 0.0751 | | | 0.0373 | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0185 | | | 0.0325 | | | 0.0594 | | | 0.0261 | | |
| Total HxCDDs | U | | | U | | | U | | | 0.0173 | | | 0.0329 | | | 0.0594 | | | 0.0314 | | |
| Total HpCDDs | 0.0103 | | | 0.0196 | | | 0.0083 | | | 0.0164 | | | 0.0205 | | | 0.0323 | | | 0.0166 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | 0.0104 | | | 0.0206 | | | 0.0098 | | | 0.0136 | | |
| Total PeCDFs | 0.0033 | | | 0.0002 | | | U | | | 0.008 | | | 0.0109 | | | 0.0195 | | | 0.0063 | | |
| Total HxCDFs | U | | | 0.0010 | | | U | | | 0.0082 | | | 0.0095 | | | 0.0174 | | | 0.0083 | | |
| Total HpCDFs | U | | | 0.0100 | | | 0.0044 | | | 0.0102 | | | 0.0123 | | | 0.0224 | | | 0.0087 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0010 | | | 0.0003 | | | 0.0001 | | | 0.0019 | | | 0.0019 | | | 0.0055 | | | 0.0018 | | |
| TEQ (ND=1/2) | 0.0042 | | | 0.0010 | | | 0.0008 | | | 0.0024 | | | 0.0025 | | | 0.0056 | | | 0.0020 | | |

COC# 04883
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 12/20/01

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

11-27-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/27/01**

| Sample No. | 05627 | | | 05628 | | | 05629 | | | 05630 | | | 05661 | | | 05662 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7200 | | | 5700 | | | 7200 | | | 7230 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | 0.0004 J | | 0.0028 | U | | 0.0035 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | 0.0013 J | | 0.014 | U | | 0.018 | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | 0.0013 | 0.014 | U | | 0.018 | U | 0.0005 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | 0.0021 J | | 0.014 | U | | 0.018 | 0.0007 J | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | 0.0018 | 0.014 | U | | 0.018 | U | 0.0004 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0096 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | 0.0066 | 0.10 | 0.0067J | | 0.10 |
| OCDD | U | | 0.028 | U | | 0.035 | U | | 0.028 | U | | 0.028 | U | | 0.20 | 0.0418 J | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | 0.0007 J | | 0.0028 | U | | 0.0035 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | 0.0011 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | 0.0007 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 12347B-HxCDF | 0.0023 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123578-HxCDF | 0.0013 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | 0.0013 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | 0.0007 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0088 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | 0.0020 | 0.10 | 0.0018 J | | 0.10 |
| 1234789-HpCDF | 0.0014 J | | 0.014 | U | | 0.018 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | 0.0094 J | | 0.028 | U | 0.0011 | 0.035 | U | | 0.028 | U | | 0.028 | 0.0053 J | | 0.20 | U | 0.0057 | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| Total TCDDs | 0.0442 | | | 0.0010 | | | 0.0002 | | | 0.0006 | | | U | | | U | | |
| Total PeCDDs | 0.0311 | | | U | | | 0.0001 | | | 0.0002 | | | U | | | U | | |
| Total HxCDDs | 0.0396 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0198 | | | 0.0017 | | | U | | | U | | | U | | | 0.0099 | | |
| | | | | | | | | | | | | | | | | | | |
| Total TCDFs | 0.0117 | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0106 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0102 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0134 | | | U | | | U | | | U | | | 0.0018 | | | 0.0041 | | |
| | | | | | | | | | | | | | | | | | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0026 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0026 | | | 0.0003 | | | 0.0003 | | | 0.0004 | | | 0.0016 | | | 0.0012 | | |

COC# 04983

11-27-01dioair.xls

Table 1.1 (cont.) Results of the Analysis for PAH in Air
WA # 0-0236: NYC ER Site

Sampling Date: 11/27/01

| Sample No. | 05645 | | 05646 | | 05647 | | 05648 | | 05649 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B Church & Dey | | C Liberty & Church | | D Greenwich & Albany | | P Albany & South End | | S Rector & South End | |
| Volume (L) | 480 | | 480 | | 480 | | 480 | | 385 | |
| Compound Name | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv |
| Naphthalene | U | 4.3 | U | 4.3 | U | 4.3 | U | 4.3 | U | 5.4 |
| 2-Methylnaphthalene | U | 4.1 | U | 4.1 | U | 4.1 | U | 4.1 | U | 5.1 |
| 1-Methylnaphthalene | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.9 |
| Biphenyl | U | 3.8 | U | 3.8 | U | 3.8 | U | 3.8 | U | 4.7 |
| 2,6-Dimethylnaphthalene | U | 3.8 | U | 3.8 | U | 3.8 | U | 3.8 | U | 4.7 |
| Acenaphthylene | U | 3.9 | U | 3.9 | U | 3.9 | U | 3.9 | U | 4.9 |
| Acenaphthene | U | 3.6 | U | 3.6 | U | 3.6 | U | 3.6 | U | 4.5 |
| Dibenzofuran | U | 3.4 | U | 3.4 | U | 3.4 | U | 3.4 | U | 4.3 |
| Fluorene | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | 4.3 |
| Phenanthrene | U | 3.1 | U | 3.1 | U | 3.1 | U | 3.1 | U | 3.9 |
| Anthracene | U | 3.2 | U | 3.2 | U | 3.2 | U | 3.2 | U | 3.9 |
| Carbazole | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 4.6 |
| Fluoranthene | U | 2.9 | U | 2.9 | U | 2.9 | U | 2.9 | U | 3.6 |
| Pyrene | U | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U | 3.5 |
| Benzo(a)anthracene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 3.1 |
| Chrysene | U | 2.2 | U | 2.2 | U | 2.2 | U | 2.2 | U | 2.8 |
| Benzo(b)fluoranthene | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.9 |
| Benzo(k)fluoranthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 3.1 |
| Benzo(e)pyrene | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.9 |
| Benzo(a)pyrene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 3.2 |
| Indeno(1,2,3-cd)pyrene | U | 2.6 | U | 2.6 | U | 2.6 | U | 2.6 | U | 3.3 |
| Dibenzo(a,h)anthracene | U | 2.6 | U | 2.6 | U | 2.6 | U | 2.6 | U | 3.3 |
| Benzo(g,h,i)perylene | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 | U | 3.0 |

COC 04881
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

11-27-01PAH.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/27/01**

| Sample No. | WG-6323-1P | | 05621 | | 05622 | | 05623 | | 05624 | | 05625 | | 05626 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | Loc 3B | | C | |
| Sample Volume (L) | 0 | | 6825 | | 7200 | | 6825 | | 7200 | | 7200 | | 7200 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of MoCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of DiCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TrCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TeCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of PeCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HxCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HpCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of OcCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of NoCBs | U | 10.0 | U | 1.47 | U | 1.39 | U | 1.47 | U | 1.39 | U | 1.39 | U | 1.39 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04863

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/17/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/27/01**

| Sample No. | 05627 | | 05628 | | 05629 | | 05630 | | 05661 | | 05662 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7200 | | 5700 | | 7200 | | 7230 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.39 | U | 1.75 | U | 1.39 | U | 1.38 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | | | 0 | | 0 | |

COC# 04883

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/04/01**

| Sample No. | WG-6338-1P | | 05671 | | 05672 | | 05673 | | 05674 | | 05675 | | 05676 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | Loc 3B | | C | |
| Sample Volume (L) | 0 | | 6780 | | 7245 | | 6960 | | 7200 | | 6815 | | 7230 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of MoCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | 1.68 | 1.47 | U | 1.38 |
| Sum of DiCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of TrCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of TeCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of PeCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of HxCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of HpCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of OcCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Sum of NoCBs | U | 10.0 | U | 1.47 | U | 1.38 | U | 1.44 | U | 1.39 | U | 1.47 | U | 1.38 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 1.68 | | 0 | |

COC# 04885

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/17/01

12-04-01PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/04/01**

| Sample No. | 05677 | | 05678 | | 05679 | | 05680 | | 05711 | | 05712 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7245 | | 5700 | | 7200 | | 6860 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.38 | U | 1.38 | U | 1.28 | U | 1.46 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04885

Table 1.1 Results of the Analysis for PAH in Air
WA # 0-0236: NYC ER Site

| Sampling Date 12/4/01 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 05716 | | 05691 | | 05692 | | 05693 | | 05694 | | | |
| Sampling Location | Lot Blank | | TAGA | | TAGA | | A Barclay & West Broadway | | 3B Church & Vesey | | | |
| Volume (L) | 0 | | 480 | | 480 | | 480 | | 480 | | | |
| Compound Name | Conc. µg | MDL µg | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | | |
| Naphthalene | U | 11 | U | 4.3 | U | 4.3 | U | 4.3 | U | 4.3 | | |
| 2-Methylnaphthalene | U | 11 | U | 4.1 | U | 4.1 | U | 4.1 | U | 4.1 | | |
| 1-Methylnaphthalene | U | 11 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | | |
| Biphenyl | U | 11 | U | 3.8 | U | 3.8 | U | 3.8 | U | 3.8 | | |
| 2,6-Dimethylnaphthalene | U | 12 | U | 3.8 | U | 3.8 | U | 3.8 | U | 3.8 | | |
| Acenaphthylene | U | 12 | U | 3.9 | U | 3.9 | U | 3.9 | U | 3.9 | | |
| Acenaphthene | U | 11 | U | 3.6 | U | 3.6 | U | 3.6 | U | 3.6 | | |
| Dibenzofuran | U | 11 | U | 3.4 | U | 3.4 | U | 3.4 | U | 3.4 | | |
| Fluorene | U | 11 | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | | |
| Phenanthrene | U | 11 | U | 3.1 | U | 3.1 | U | 3.1 | U | 3.1 | | |
| Anthracene | U | 11 | U | 3.2 | U | 3.2 | U | 3.2 | U | 3.2 | | |
| Carbazole | U | 12 | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | | |
| Fluoranthene | U | 12 | U | 2.9 | U | 2.9 | U | 2.9 | U | 2.9 | | |
| Pyrene | U | 11 | U | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | | |
| Benzo(a)anthracene | U | 11 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | | |
| Chrysene | U | 10 | U | 2.2 | U | 2.2 | U | 2.2 | U | 2.2 | | |
| Benzo(b)fluoranthene | U | 11 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | | |
| Benzo(k)fluoranthene | U | 12 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | | |
| Benzo(e)pyrene | U | 11 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | | |
| Benzo(a)pyrene | U | 13 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | | |
| Indeno(1,2,3-cd)pyrene | U | 14 | U | 2.6 | U | 2.6 | U | 2.6 | U | 2.6 | | |
| Dibenzo(a,h)anthracene | U | 14 | U | 2.6 | U | 2.6 | U | 2.6 | U | 2.6 | | |
| Benzo(g,h,i)perylene | U | 13 | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 | | |

COC 04888
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0013 | | WTC-0014 | | WTC-0008 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | O-19 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 5530 | |
| Date Collected | | - | | - | | - | | 12/05/01 | | 12/05/01 | | 12/05/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.45 | 0.23 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.009 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.009 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.057 | 0.023 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.009 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.023 |
| Calcium | ICAP | 3.8 | 2.5 | 3.9 | 2.5 | 4.0 | 2.5 | U | 2.5 | U | 2.5 | 1.8 | 0.45 |
| Chromium | ICAP | 0.87 | 0.13 | 0.80 | 0.13 | 0.77 | 0.13 | U | 0.13 | U | 0.13 | U | 0.023 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.045 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.045 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.5 | 0.11 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | 0.19 | 0.05 | U | 0.05 | U | 0.05 | 0.018 | 0.009 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.3 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.033 | 0.023 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.045 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 9.0 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.009 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.023 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.3 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.009 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.045 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.17 | 0.045 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1 1 (cont ) Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | WTC-0009 | | WTC-0010 | | WTC-0011 | | WTC-0012 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | O-18 | | O-17 | | P-8 | | P-5 | |
| Air Volume (L) | | 5520 | | 4810 | | 7330 | | 7370 | |
| Date Collected | | 12/05/01 | | 12/05/01 | | 12/05/01 | | 12/05/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.1 | 0.23 | 0.72 | 0.26 | 0.50 | 0.17 | 0.58 | 0.17 |
| Antimony | AA-Fur | 0.018 | 0.0091 | 0.011 | 0.01 | 0.0069 | 0.0068 | U | 0.0068 |
| Arsenic | AA-Fur | U | 0.0091 | U | 0.01 | U | 0.0068 | U | 0.0068 |
| Barium | ICAP | 0.15 | 0.023 | 0.091 | 0.026 | 0.044 | 0.017 | 0.046 | 0.017 |
| Beryllium | ICAP | U | 0.0091 | U | 0.01 | U | 0.0068 | U | 0.0068 |
| Cadmium | ICAP | U | 0.023 | U | 0.026 | U | 0.017 | U | 0.017 |
| Calcium | ICAP | 5.4 | 0.45 | 2.7 | 0.52 | 1.7 | 0.34 | 3.5 | 0.34 |
| Chromium | ICAP | U | 0.023 | U | 0.026 | 0.018 | 0.017 | 0.023 | 0.017 |
| Cobalt | ICAP | U | 0.045 | U | 0.052 | U | 0.034 | U | 0.034 |
| Copper | ICAP | 0.10 | 0.045 | 0.064 | 0.052 | 0.059 | 0.034 | 0.053 | 0.034 |
| Iron | ICAP | 3.6 | 0.11 | 2.1 | 0.13 | 1.7 | 0.085 | 1.5 | 0.085 |
| Lead | AA-Fur | 0.13 | 0.0091 | 0.12 | 0.01 | 0.067 | 0.0068 | 0.035 | 0.0068 |
| Magnesium | ICAP | U | 2.3 | U | 2.6 | U | 1.7 | U | 1.7 |
| Manganese | ICAP | 0.058 | 0.023 | 0.036 | 0.026 | 0.036 | 0.017 | 0.037 | 0.017 |
| Nickel | ICAP | U | 0.045 | U | 0.052 | U | 0.034 | U | 0.034 |
| Potassium | ICAP | U | 9.1 | U | 10 | U | 6.8 | U | 6.8 |
| Selenium | AA-Fur | U | 0.0091 | U | 0.01 | U | 0.0068 | U | 0.0068 |
| Silver | ICAP | U | 0.023 | U | 0.026 | U | 0.017 | U | 0.017 |
| Sodium | ICAP | U | 2.3 | U | 2.6 | U | 1.7 | U | 1.7 |
| Thallium | AA-Fur | U | 0.0091 | U | 0.01 | U | 0.0068 | U | 0.0068 |
| Vanadium | ICAP | U | 0.045 | U | 0.052 | U | 0.034 | U | 0.034 |
| Zinc | ICAP | 0.28 | 0.045 | 0.28 | 0.052 | 0.16 | 0.034 | 0.20 | 0.034 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 11383 | | 11384 | | 11391 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4910 | |
| Date Collected | | - | | - | | - | | 12/06/01 | | 12/06/01 | | 12/06/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.86 | 0.25 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.046 | 0.025 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Calcium | ICAP | 3.8 | 2.5 | 3.9 | 2.5 | 4.0 | 2.5 | U | 2.5 | U | 2.5 | 3.6 | 0.51 |
| Chromium | ICAP | 0.87 | 0.13 | 0.80 | 0.13 | 0.77 | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.051 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.051 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 2.2 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | 0.19 | 0.05 | U | 0.05 | U | 0.05 | 0.034 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.5 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.038 | 0.025 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.051 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | 4.2 | 2.5 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.051 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.24 | 0.051 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1(cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11392 | | 11393 | | 11394 | | 11395 | | 11396 | | 11397 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C -LIBERTY ST. & CHURCH | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4970 | | 4950 | | 4970 | | 4970 | | 4610 | | 5010 | |
| Date Collected | | 12/06/01 | | 12/06/01 | | 12/06/01 | | 12/06/01 | | 12/06/01 | | 12/06/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.99 | 0.25 | 1.5 | 0.25 | 1.6 | 0.25 | 2.4 | 0.25 | 1.8 | 0.27 | 1.7 | 0.25 |
| Antimony | AA-Fur | U | 0.01 | 0.023 | 0.01 | 0.02 | 0.01 | 0.019 | 0.01 | 0.012 | 0.011 | 0.041 | 0.01 |
| Arsenic | AA-Fur | U | 0.01 | 0.011 | 0.01 | 0.015 | 0.01 | 0.012 | 0.01 | U | 0.011 | 0.025 | 0.01 |
| Barium | ICAP | 0.059 | 0.025 | 0.064 | 0.025 | 0.065 | 0.025 | 0.10 | 0.025 | 0.093 | 0.027 | 0.13 | 0.025 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.011 | U | 0.01 |
| Cadmium | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.027 | U | 0.025 |
| Calcium | ICAP | 4.6 | 0.50 | 13 | 0.51 | 14 | 0.50 | 20 | 0.50 | 14 | 0.54 | 13 | 0.50 |
| Chromium | ICAP | 0.035 | 0.025 | U | 0.025 | 0.025 | 0.025 | U | 0.025 | U | 0.027 | 0.061 | 0.025 |
| Cobalt | ICAP | U | 0.05 | U | 0.051 | U | 0.05 | U | 0.05 | U | 0.054 | U | 0.05 |
| Copper | ICAP | 0.054 | 0.05 | 0.15 | 0.051 | 0.18 | 0.05 | 0.18 | 0.05 | 0.12 | 0.054 | 0.49 | 0.05 |
| Iron | ICAP | 3.0 | 0.13 | 8.2 | 0.13 | 11 | 0.13 | 12 | 0.13 | 8.2 | 0.14 | 13 | 0.12 |
| Lead | AA-Fur | 0.053 | 0.01 | 0.14 | 0.01 | 0.16 | 0.01 | 0.11 | 0.01 | 0.071 | 0.011 | 0.28 | 0.01 |
| Magnesium | ICAP | U | 2.5 | U | 2.5 | U | 2.5 | 2.7 | 2.5 | U | 2.7 | U | 2.5 |
| Manganese | ICAP | 0.048 | 0.025 | 0.13 | 0.025 | 0.16 | 0.025 | 0.20 | 0.025 | 0.14 | 0.027 | 0.2 | 0.025 |
| Nickel | ICAP | U | 0.05 | U | 0.051 | U | 0.05 | U | 0.05 | U | 0.054 | 0.058 | 0.05 |
| Potassium | ICAP | U | 10 | U | 10 | U | 10 | U | 10 | U | 11 | U | 10 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.011 | U | 0.01 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.027 | U | 0.025 |
| Sodium | ICAP | 4.3 | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.7 | 3.0 | 2.5 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.011 | U | 0.01 |
| Vanadium | ICAP | U | 0.05 | U | 0.051 | U | 0.05 | U | 0.05 | U | 0.054 | U | 0.05 |
| Zinc | ICAP | 0.31 | 0.05 | 0.77 | 0.051 | 0.78 | 0.05 | 1.1 | 0.05 | 0.75 | 0.054 | 4.2 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11398 | | 11399 | | 11400 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END AVE | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 5030 | | 5040 | | 5030 | |
| Date Collected | | 12/06/01 | | 12/06/01 | | 12/06/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.3 | 0.25 | 1.2 | 0.25 | 1.3 | 0.25 |
| Antimony | AA-Fur | U | 0.0099 | U | 0.0099 | U | 0.0099 |
| Arsenic | AA-Fur | U | 0.0099 | U | 0.0099 | U | 0.0099 |
| Barium | ICAP | 0.075 | 0.025 | 0.067 | 0.025 | 0.059 | 0.025 |
| Beryllium | ICAP | U | 0.0099 | U | 0.0099 | U | 0.0099 |
| Cadmium | ICAP | U | 0.025 | U | 0.025 | U | 0.025 |
| Calcium | ICAP | 9.0 | 0.50 | 5.5 | 0.50 | 8.2 | 0.50 |
| Chromium | ICAP | U | 0.025 | U | 0.025 | U | 0.025 |
| Cobalt | ICAP | U | 0.05 | U | 0.05 | U | 0.05 |
| Copper | ICAP | 0.089 | 0.05 | 0.057 | 0.05 | 0.057 | 0.05 |
| Iron | ICAP | 4.2 | 0.12 | 3.4 | 0.12 | 2.8 | 0.12 |
| Lead | AA-Fur | 0.054 | 0.0099 | 0.045 | 0.0099 | 0.041 | 0.0099 |
| Magnesium | ICAP | 2.7 | 2.5 | U | 2.5 | U | 2.5 |
| Manganese | ICAP | 0.065 | 0.025 | 0.054 | 0.025 | 0.057 | 0.025 |
| Nickel | ICAP | U | 0.05 | U | 0.05 | U | 0.05 |
| Potassium | ICAP | U | 9.9 | U | 9.9 | U | 9.9 |
| Selenium | AA-Fur | U | 0.0099 | U | 0.0099 | U | 0.0099 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 |
| Sodium | ICAP | 3.1 | 2.5 | 3.3 | 2.5 | 4.1 | 2.5 |
| Thallium | AA-Fur | U | 0.0099 | U | 0.0099 | U | 0.0099 |
| Vanadium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 |
| Zinc | ICAP | 0.39 | 0.05 | 0.30 | 0.05 | 0.32 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0006 | | WTC-0007 | | WTC-0001 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Lot Blank | | Field Blank | | O-19 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4800 | |
| Date Collected | | - | | - | | - | | 12/03/01 | | 12/03/01 | | 12/03/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.33 | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.048 | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 3.8 | 2.5 | 3.8 | 2.5 | 3.5 | 2.5 | U | 2.5 | U | 2.5 | 1.8 | 0.52 |
| Chromium | ICAP | 0.81 | 0.13 | 0.92 | 0.13 | 0.69 | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.071 | 0.052 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.6 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.17 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.31 | 0.052 |

**MDL denotes Method Detection Limit**
**U denotes less than the MDL (not detected)**
**Average Media Blank concentration subtracted from all sample results**

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | WTC-0002 | | WTC-0003 | | WTC-0004 | | WTC-0005 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | O-18 | | O-17 | | P-8 | | P-5 | |
| Air Volume (L) | | 4730 | | 4650 | | 4790 | | 4700 | |
| Date Collected | | 12/03/01 | | 12/03/01 | | 12/03/01 | | 12/03/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.32 | 0.26 | 0.29 | 0.27 | U | 0.26 | 0.35 | 0.27 |
| Antimony | AA-Fur | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 |
| Barium | ICAP | 0.052 | 0.026 | 0.038 | 0.027 | 0.026 | 0.026 | U | 0.027 |
| Beryllium | ICAP | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 |
| Cadmium | ICAP | U | 0.026 | U | 0.027 | U | 0.026 | U | 0.027 |
| Calcium | ICAP | 1.9 | 0.53 | 1.7 | 0.54 | 1.1 | 0.52 | 3.4 | 0.53 |
| Chromium | ICAP | U | 0.026 | U | 0.027 | U | 0.026 | U | 0.027 |
| Cobalt | ICAP | U | 0.053 | U | 0.054 | U | 0.052 | U | 0.053 |
| Copper | ICAP | 0.48 | 0.053 | U | 0.054 | 0.07 | 0.052 | U | 0.053 |
| Iron | ICAP | 1.3 | 0.13 | 1.2 | 0.13 | 0.85 | 0.13 | 1.0 | 0.13 |
| Lead | AA-Fur | 0.058 | 0.011 | 0.047 | 0.011 | 0.029 | 0.01 | 0.041 | 0.011 |
| Magnesium | ICAP | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.7 |
| Manganese | ICAP | U | 0.026 | U | 0.027 | U | 0.026 | U | 0.027 |
| Nickel | ICAP | U | 0.053 | U | 0.054 | U | 0.052 | U | 0.053 |
| Potassium | ICAP | U | 11 | U | 11 | U | 10 | U | 11 |
| Selenium | AA-Fur | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 |
| Silver | ICAP | U | 0.026 | U | 0.027 | U | 0.026 | U | 0.027 |
| Sodium | ICAP | U | 2.6 | 3.1 | 2.7 | 4.9 | 2.6 | U | 2.7 |
| Thallium | AA-Fur | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.053 | U | 0.054 | U | 0.052 | U | 0.053 |
| Zinc | ICAP | 0.44 | 0.053 | 0.17 | 0.054 | 0.19 | 0.052 | 0.19 | 0.053 |

**MDL denotes Method Detection Limit**
**U denotes less than the MDL (not detected)**
**Average Media Blank concentration subtracted from all sample results**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/18/01 0810 to 2208**

**Data Validation Date: 12/20/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/18/01 | LF01649 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01650 | P-2 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/18/01 | LF01651 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01652 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01653 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01654 | P-6 | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01655 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01656 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01657 | W-11 | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01658 | W-12A | 720 | Air | 14.01 | 0.0075 | 2*** | 1*** | 26.25 | 0.0140 |
| 12/18/01 | LF01659 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01660 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01661 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01662 | T-15 | 720 | Air | 58.60 | 0.031 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01663 | T-16 | 720 | Air | 22.93 | 0.012 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01664 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01665 | O-18 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01666 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01667 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/18/01 | LF01668 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |
| 12/18/01 | LF01669 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-18-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/19/01 0823 to 2228**

**Data Validation Date: 12/21/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/19/01 | LF01670 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01671 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01672 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01673 | P-4 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/19/01 | LF01674 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01675 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01676 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01677 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01678 | W-11 | 720 | Air | 17.83 | 0.0095 | 1*** | 0 | 8.75 | 0.0047 |
| 12/19/01 | LF01679 | W-12A | 720 | Air | 8.92 | 0.005 | 1*** | 0 | 8.75 | 0.0047 |
| 12/19/01 | LF01680 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01681 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01682 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01683 | T-15 | 212 | Air | 57.32 | 0.104 | 0 | 0 | <8.75 | <0.0159 |
| 12/19/01 | LF01684 | T-16 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01685 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01686 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01687 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01688 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | LF01689 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/19/01 | LF01690 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-19-01-am.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/06/01 0830 to 1608**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 12/6/01 | 11413 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11415 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11416 | C | 1077.5 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11417 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11420 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11418 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11419 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11411 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/6/01 | 11412 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04373

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

NS: Not sampled

ERT 12/17/01

**NIOSH 7500: Silica crystalline by XRD**

**J denotes that value is in between the level of detection and the level of quantitation**

FL-12-06-01silica.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/11/01 0750 to 1500**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 12/11/01 | 05913 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05914 | 3B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05915 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05916 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05917 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05920 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05918 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05919 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05911 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/11/01 | 05912 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04143

NS: Not sampled

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

ERT 12/18/01

**NIOSH 7500: Silica crystalline by XRD**

**J denotes that value is in between the level of detection and the level of quantitation**

FL-12-11-01silica.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/17/01 1200 to 2359**

**Data Validation Date: 12/20/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/17/01 | RST-02058 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02059 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02060 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02061 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02062 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02063 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02064 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02065 | A-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02066 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02067 | B-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02068 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02069 | H | 1224* | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 12/17/01 | RST-02070 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02071 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02072 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02073 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02074 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02075 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02076 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02077 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/17/01 | RST-02078 | E | 1224* | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 12/17/01 | RST-02079 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | FB121801 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/18/01 | TB121801 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method except for samples RST-02069 and RST-02078; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-17-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/18/01 0001 to 1200**

**Data Validation Date: 12/20/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 12/18/01 | RST-02080 | L | 555 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0055 |
| 12/18/01 | RST-02081 | M-1 | 684 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/18/01 | RST-02082 | N | 1062.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 12/18/01 | RST-02083 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02084 | Q | 1186.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 12/18/01 | RST-02085 | F | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02086 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02087 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02088 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02089 | C-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02090 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02091 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02092 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02093 | D-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02094 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02095 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02096 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02097 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02098 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02099 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02100 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02101 | W | 677 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/18/01 | FB121801 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/18/01 | TB121801 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
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V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-18-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/18/01 1200 to 2359**

**Data Validation Date: 12/21/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/18/01 | RST-02102 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0048 |
| 12/18/01 | RST-02103 | N | 1193.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 12/18/01 | RST-02104 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0048 |
| 12/18/01 | RST-02105 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0048 |
| 12/18/01 | RST-02106 | Q | 1224* | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 12/18/01 | RST-02107 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02108 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02109 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02110 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02111 | H | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/18/01 | RST-02112 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02113 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02114 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02115 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02116 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/18/01 | RST-02117 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02118 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02119 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02120 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02121 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02122 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/18/01 | RST-02123 | W | 386 | Air | 7.64 | 0.008 | 3*** | 1*** | 32 | 0.0319 |
| 12/19/01 | FB121901 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/19/01 | TB121901 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
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R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method, except for sample RST-02106; volume is based on pump reading

** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/21/01**
**Sampling Date and Time: 12/19/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/19/01 | RST-02124 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02125 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | - | N | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/19/01 | RST-02126 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02127 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02128 | F | 715 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02129 | A | 545 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0057 |
| 12/19/01 | RST-02130 | B | 720 | Air | 7.01 | 0.004 | 1*** | 1*** | 17.78 | 0.0095 |
| 12/19/01 | RST-02131 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | - | H | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/19/01 | RST-02132 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02133 | I | 699 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0049 |
| 12/19/01 | RST-02134 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02135 | T | 316 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0097 |
| 12/19/01 | RST-02136 | U | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/19/01 | RST-02137 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02138 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | - | S-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/19/01 | RST-02139 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02140 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/19/01 | RST-02141 | E | 1173 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 12/19/01 | RST-02142 | W | 443 | Air | 8.92 | 0.008 | 3*** | 0 | 24 | 0.0209 |
| 12/19/01 | FB121901 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/19/01 | TB121901 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading.
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/16/01 1200 to 2400**

**Data Validation Date: 12/20/2001**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 12/16/01 | 7093-18-0080 | Park Row | 1176*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 12/16/01 | 7093-19-0080 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7093-20-0080 | Coast Guard | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7093-15-0079 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7094-09-0069 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7096-12-0074 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7095-98-0076 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/16/01 | 7097-18-0072 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/17/01 1200 to 2400**

**Data Validation Date: 12/21/2001**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/17/01 | 7093-18-0081 | Park Row | 1220 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 12/17/01 | 7093-19-0081 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/17/01 | 7093-20-0081 | Coast Guard | 1180*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 12/17/01 | 7093-15-0080 | Manhattan PS #143 | 990*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 12/17/01 | 7094-09-0070 | Bronx PS #154 | 974*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 12/17/01 | 7096-12-0075 | Queens PS #199 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/17/01 | 7095-98-0077 | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/17/01 | 7097-18-0073 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

ext-12-17-01pm.xls

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday - Thursday, December 22-27, 2001

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 7:00 a.m. on 12/28**

**Staten Island Landfill:**
**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on December 19, 22 and 26 at the Staten Island Landfill. No significant readings reported.

**Ambient Air Samples - lower Manhattan:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from December 17 through 20 at Pace University, Borough of Manhattan Community College, the Coast Guard building in Battery Park and on Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from December 17 through 20 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples from December 19 through December 23 and on December 26 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from December 19 to 23 and on December 26 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene exceeded the OSHA standard on Dec. 20 and 22 on the debris pile at the North Tower and on December 23 and 26 at the North Tower debris pile. Fourteen of twenty other samples taken at EPA's Wash Tent (West

St. and Murray), Austin Tobin Plaza and in the debris area at ground level showed no detectable levels of benzene.

**Direct Air Readings -** EPA did air monitoring in and around ground zero for a number of compounds from December 19 through 24. No significant readings were found December 20 through 24. On December 19, nothing of significance was found in the routine monitoring. EPA did additional monitoring on December 19, analyzing air samples from in and around ground zero for hexamethylene diisocyanate (HDI), methylene bis(4-phenyl isocyanate) (MDI) and toluene-2,4-diisocyanate (TDI). Low levels of HDI, MDI and TDI were identified at four locations: North Tower, South Tower, Vista Hotel and Church and Dey. All levels were below the OSHA permissible exposure limits.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, December 27, 2001**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 12, 1200 - 2359)

Errata: Resubmittal corrects volume for sample no. RST-01842.
All results, other than minor adjustments for RST-01842, remain the same.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 17-18) - Particulate Monitoring (Dataram)

No particulate measurements taken during this period due to weather conditions.

Fresh Kills (Dec 19) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-1, P-2, P-3, P-8) based on daily average concentrations.

Fresh Kills (Dec 21) - Particulate Monitoring (Dataram)

No particulate measurements taken during this period.

Fresh Kills (Dec 22) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-1, P-2, P-3, P-8) based on daily average concentrations.

Fresh Kills (Dec 23 -25) - Particulate Monitoring (Dataram)

No particulate measurements taken during this three-day period.

Fresh Kills (Dec 26) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-1, P-2) based on daily average concentrations.
Pumps for P-3 and P-8 malfunctioned.

Ambient Air Sampling Locations

NYC / ER (Dec 17) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.28 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.07 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***10.92 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.62 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 17) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***22.03 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 18) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.79 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.66 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***7.56 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***9.40 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 18) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***16.68 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 19) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.10 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***13.31 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***9.65 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***13.39 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 19) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***25.81 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 20) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.08 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.88 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***9.55 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***9.46 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 20) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.65 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 19) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 0.1 to 305.8 ug/m$^3$ with an average of 33.6 ug/m$^3$.
Station N values ranged from 3.9 to 140.6 ug/m$^3$ with an average of 22.3 ug/m$^3$.
Station R values ranged from 0.7 to 204.0 ug/m$^3$ with an average of 25.7 ug/m$^3$.

NYC / ER (Dec 20) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 0.0 to 153.8 ug/m$^3$ with an average of 11.4 ug/m$^3$.
Station N values ranged from 0.7 to 116.3 ug/m$^3$ with an average of 8.0 ug/m$^3$.
Station R values ranged from 1.6 to 118.5 ug/m$^3$ with an average of 10.7 ug/m$^3$.

NYC / ER (Dec 21) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 1.9 to 117.0 ug/m$^3$ with an average of 5.7 ug/m$^3$.
Station N values ranged from 0.8 to 208.9 ug/m$^3$ with an average of 4.0 ug/m$^3$.
Station R values ranged from 2.4 to 57.4 ug/m$^3$ with an average of 5.4 ug/m$^3$.

NYC / ER (Dec 22) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 5½ to 6 hours.
Station L values ranged from 0.0 to 163.9 ug/m$^3$ with an average of 4.5 ug/m$^3$.
Station N values ranged from 0.5 to 27.0 ug/m$^3$ with an average of 4.6 ug/m$^3$.
Station R values ranged from 0.0 to 151.4 ug/m$^3$ with an average of 8.1 ug/m$^3$.

NYC / ER (Dec 23) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 5 to 6 hours.
Station L values ranged from 0.0 to 88.8 ug/m$^3$ with an average of 27.4 ug/m$^3$.
Station N values ranged from 3.4 to 440.8 ug/m$^3$ with an average of 24.7 ug/m$^3$.
Station R values ranged from 0.1 to 337.7 ug/m$^3$ with an average of 25.1 ug/m$^3$.

NYC / ER (Dec 24) - Particulate Monitoring (Dataram)

No measurements were taken at the three particulate monitoring locations (Stations L, N, R) due to weather conditions.

NYC / ER (Dec 25) - Particulate Monitoring (Dataram)

No monitoring conducted.

NYC / ER (Dec 26) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6½ to 7 hours.
Station L values ranged from 3.2 to 268.5 ug/$m^3$ with an average of 17.7 ug/$m^3$.
Station N values ranged from 62.9 to 870.8 ug/$m^3$ with an average of 75.2 ug/$m^3$.
Station R values ranged from 4.0 to 1316.2 ug/$m^3$ with an average of 21.0 ug/$m^3$.

NYC / ER (Dec 19) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 2 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza), including in the debris area at ground level.

NYC / ER (Dec 20) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (South Tower) in the debris area at ground level.
2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Dec 21) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (ranging from 20 ppbv to 250 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, South Tower), including in the debris area at ground level.

NYC / ER (Dec 22) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (South Tower) in the debris area at ground level.
2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Dec 23) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Dec 24) - Volatile Organics (Mobile Laboratory)

No samples collected during this period due to weather conditions.

NYC / ER (Dec 25) - Volatile Organics (Mobile Laboratory)

No samples collected during this period.

NYC / ER (Dec 26) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (ranging from 20 ppbv to 50 ppbv).

Direct Reading Instruments

NYC / ER (Dec 19)

Nothing of significance reported with routine daily monitoring parameters.
Monitoring conducted for hexamethylene diisocyanate (HDI), methylene bis(4-phenyl isocyanate) (MDI), and toluene-2,4-diisocyanate (TDI).
Locations monitored for the cyanide compounds included: North Tower, South Tower, Vista Hotel, Building No. 4, and Locations A, B, C, D, E, P, R, S, 3B from the fixed ambient air sampling stations.
Measurements for the cyanide compounds consisted of one to three 3-minute run(s) taken once that day at each of the locations.
Low levels of HDI, MDI, and/or TDI identified at the North Tower, South Tower, Vista Hotel, and Location B (Note: not all compounds were identified at each of the locations). The MDI and TDI hits were all measured at or below the detection limit (2 ppb).
As a point of comparison, all levels detected were below the respective OSHA PELs and NIOSH RELs for these compounds. The NIOSH REL for HDI and MDI is 0.005 ppm. The OSHA PEL for TDI is 0.02 ppm.
Note: The cassettes used to monitor for these cyanide compounds also respond positively to elevated levels of chlorine, nitrogen dioxide, nitric oxide, and ozone.
Note: Air samples (15-minute grabs) were collected for fixed laboratory analysis at two of the work-zone locations and at each of the fixed ambient air sampling stations. Results are pending.

NYC / ER (Dec 20)

Nothing of significance reported.

NYC / ER (Dec 21)

Nothing of significance reported.

NYC / ER (Dec 22)

Nothing of significance reported.

NYC / ER (Dec 23)

Nothing of significance reported.

NYC / ER (Dec 24)

Nothing of significance reported during the afternoon hours.
No measurements taken during the morning hours due to weather conditions.

NYC / ER (Dec 25)

No monitoring conducted during this period.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/16/01**
**Sampling Date and Time: 12/12/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/12/01 | RST-01839 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01840 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01841 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01842 | J | 555 | Air | <7.0 | <0.005 | 1*** | 0 | 8.00 | 0.0055 |
| 12/12/01 | RST-01843 | Q | 332 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0093 |
| 12/12/01 | RST-01844 | F | 530 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 12/12/01 | RST-01845 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01846 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01847 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01848 | H | 1047.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 12/12/01 | RST-01849 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01850 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01851 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01852 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01853 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01854 | V | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 12/12/01 | RST-01855 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01856 | S-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01857 | P | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 12/12/01 | RST-01858 | P-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/12/01 | RST-01859 | E | 940.1 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 12/12/01 | RST-01860 | W | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/13/01 | FB121301 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/13/01 | TB121301 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-12-01-pmrev1.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 19, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 13.2 | 32.7 | 413.1 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 1.4 | 31.1 | 495.4 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 6.9 | 24.9 | 174.5 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 2294 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2083 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 0 | 0.0 | 12 | 25.8 | 89.3 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 22, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 64 | 16:00:00 | 10 | 00:15:00 | 100 | 0.0 | 7.1 | 50.9 | 814.7 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 22.1 | 584.7 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 24.1 | 955.4 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2083 | 1 | 17 | 4:15:00 | 10 | 00:15:00 | 100 | 0.0 | 3.3 | 43.0 | 923.2 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 26, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 11.4 | 41.3 | 383.4 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 44 | 11:00:00 | 10 | 00:15:00 | 100 | 0.0 | 2.4 | 38.9 | 2674.0 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

(EARLY)

DATE: 12/19/01

RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 8:10 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 8:25 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 8:33 | ND | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 8:40 | 0.5 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 8:50 | 1.2 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| F | 8:55 | 1.5 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 9:03 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 9:08 | 0.5 | 0.3 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 9:13 | 2.7 | 0.1 | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| H | 9:25 | N.D | 0.6 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 9:35 | * | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 9:50 | \| | 0.2 | ND | 21.0 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 9:55 | \| | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| T | 10:05 | \| | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 10:07 | \| | 0.3 | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 10:13 | \| | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 10:18 | \| | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 10:27 | \| | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 10:35 | ▼ | ND | ND | 21.0 | 6 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FID MALFUNCTIONING

HCl, HF, $COCl_2$ – SPM

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

(LATE)

DATE: 12/19/01 RST: Patrick Chan

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 12:15 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 12:20 | | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 12:25 | | 0.3 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 12:28 | | 0.3 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| G | 12:31 | | 0.3 | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| F | 12:35 | | ND | 1 | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 12:41 | | ND | 1 | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 12:45 | | 0.5 | 1 | 21.2 | 8 | ND | ND | ND | ND | ND | ND | ND |
| C | 12:50 | | 0.1 | 1 | 21.1 | 8 | ND | ND | ND | ND | ND | ND | ND |
| H | 1:02 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| I | 1:07 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1:13 | | 0.1 | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| K | 1:16 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 1:25 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1:28 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| V | 1:40 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1:46 | | ND | 1 | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1:50 | | ND | 1 | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| E | 1:55 | | ND | 1 | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* PID MALFUNCTIONING

HCL, HF, $COCl_2$ - SAM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**ENVIRONMENTAL RESPONSE TEAM**
**AIR MONITORING WORK SHEET**

Page __ of __

Lockheed Martin Corp.
REAC Project, Edison, NJ
EPA Contract No. 68-C99-223

Site: WTC GR

WA #: 0-234

Prepared By: AD, SR, MH

EPA/ERT WAM: SINGHVI

Date: 12/19/01

REAC Task Leader: BRADSTREET

| LOCATION | SAM-HDI | SAM-MDI | SAM-TDI | Time |
|---|---|---|---|---|
| NORTH TOWER 1 | 0 | ~~NA~~ 0 | ~~NA~~ 2 | 1008 |
| | 2 | 0 | 2 | 1011 |
| | 0 | 0 | 1 | 1015 |
| ~~SOUTH~~ TOWER 1 | 0 | 0 | 1 | 1035 |
| | 4 | 0 | 2 | 1040 |
| | 0 | 0 | 2 | 1045 |
| VISTA HOTEL | 0 | 2 | 0 | 1050 |
| | 0 | 0 | 0 | 1055 |
| | 0 | 0 | 0 | 1100 |
| B.D.H. | 0 | 0 | 0 | 1110 |
| | 0 | 0 | 0 | 1115 |
| | 0 | 0 | 0 | 1120 |
| TACA | 0 | 0 | 0 | 1230 |
| | 0 | 0 | 0 | 1236 |
| | 0 | 0 | 0 | 1241 |
| Loc. A | ~~SAM~~ 0 | 0 | 0 | ~~1000~~ 1251 |
| | 0 | 0 | 0 | 1300 |
| | 0 | 0 | 0 | 1304 |

General Comments:

**ENVIRONMENTAL RESPONSE TEAM**
**AIR MONITORING WORK SHEET**

Page __ of __

Lockheed Martin Corp.
REAC Project, Edison, NJ
EPA Contract No. 68-C99-223

Site: NYC GR
Prepared By: AD, MH, SR
Date: 12/19/01

WA #: 0-236
EPA/ERT WAM: Singhvi
REAC Task Leader: BRADSTREET

| LOCATION | SPM - MDI | SPM - HDI | SPM - TDI | Time |
|---|---|---|---|---|
| 3B | 0 | 0 | 0 | 1328 |
| B | 0 | 3 | 0 | 1338 |
| C | 0 | 0 | 0 | 1342 |
| D | 0 | 0 | 0 | 1416 |
| F | 0 | 0 | 0 | 1426 |
| 3 | 0 | 0 | 0 | 1432 |
| E | 0 | 0 | 0 | 1438 |
| | | | | |
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General Comments:

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12-20-01 (EARLY) RST: CANNON

| Location | Time | PID (units) | FID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0816 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0826 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0836 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0844 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0852 | ND | ND | ND | 20.9 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| F | 0857 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0905 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0911 | ND | ND | ND | 20.8 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| C | 0918 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0935 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0944 | ND | ND | ND | 20.9 | 3.0 | ND | ND | ND | ND | ND | ND | ND |
| D | 0956 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1002 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 1010 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1016 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1024 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1045 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1056 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1100 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |

HCL, HF, $COCl_2$ GAS – SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12-20-01 (LATE) RST: CANNON

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 12:25 | ** | 0.2 | ND | 21.1 | 8 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 12:30 | | 2.4 | ND | 21.1 | 8 | ND | ND | ND | ND | ND | ND | ND |
| N | 12:35 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 12:41 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 12:47 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 12:50 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 12:55 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 1:00 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 1:05 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1:20 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 1:25 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1:35 | | 0.4 | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 1:38 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| T | 1:45 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1:47 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1:50 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1:55 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1:57 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | * |
| E | 2:00 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | |

* Battery Dead
** Out of hydrogen

HCl, HF, $COCl_2$ - SPM

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Emily

DATE: 12/21/01 (9/11)

RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 8:07 | 0.2 | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 8:13 | 0.2 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 8:20 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 8:33 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 8:39 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 8:42 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 8:48 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 8:54 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 8:57 | ND | 0.6 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 9:10 | ND | 0.3 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 9:20 | ND | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 9:25 | ND | 0.2 | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 9:35 | ND | 0.2 | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 9:50 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 9:55 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 10:05 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 10:15 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 10:20 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 10:29 | ND | 0.1 | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

HCL, HF, $COCl_2$ → SPM

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

(LATE) Late

DATE: 12/21/01

RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 12:10 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 12:15 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 12:20 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 12:25 | | 0.5 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 12:26 | | 0.4 | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 12:28 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 12:35 | | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 12:38 | | 0.2 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 12:41 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 12:50 | | 0.1 | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| I | 12:55 | | 0.1 | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| D | 1:00 | | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1:05 | | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 1:10 | | 0.5 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 1:12 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1:14 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1:20 | | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1:25 | | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1:27 | ↓ | 0.1 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FLAME WOULD NOT RE-LIGHT

HF, HCl, $COCl_2$ — SPM

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/22/01 (Early) RST: Brennan, Adams, Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0810 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0825 | ND | 0.1 | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0833 | ND | 0.1 | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0840 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| O | 0844 | ND | 0.2 | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 0851 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0900 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0907 | ND | 0.2 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0914 | ND | 0.6 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0925 | ND | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0933 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0941 | ND | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 0950 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1004 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1012 | 0.5 | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | 0.7 | ND |
| S | 1029 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1034 | ND | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1042 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

HCl, HF, $COCl_2$ – Spot

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/22/01 (LATE) RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 12:16 | * | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 12:20 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 12:25 | | 0.2 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 12:29 | | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 12:33 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 12:35 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 12:40 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| B | 12:44 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 12:48 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 12:55 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 12:58 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1:05 | | 0.1 | ND | 21.1 | 9 | ND | ND | ND | ND | ND | ND | ND |
| K | 1:15 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 1:20 | | 0.4 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1:22 | | 0.2 | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1:24 | | 0.1 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| S | 1:30 | | 0.1 | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1:33 | | 0.5 | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1:35 | | 0.1 | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FLAME WOULD NOT LIGHT, LOW HYDROGEN

HCl, HF, $COCl_2$ - SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway

Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling

Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

(EARLY)

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

P.C.
DATE: ~~12/22/01~~ 12/23/01

RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 8:17 | ND | 0.2 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 8:30 | ND | 0.1 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| N | 8:40 | ND | 0.3 | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 8:47 | ND | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 8:53 | ND | 0.1 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 8:58 | ND | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 9:05 | ND | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 9:13 | ND | 0.4 | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| C | 9:20 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 9:30 | ND | 0.2 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 9:37 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 9:45 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| K | 9:50 | ND | 0.5 | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 10:00 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 10:03 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 10:05 | ND | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 10:15 | ND | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 10:20 | ND | 0.1 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 10:25 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |

HCl, HF, $COCl_2$ - SPM

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/23/01 (LATE) RST: Patrick Chan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 12:05 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 12:08 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 12:10 | ND | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 12:15 | ND | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 12:17 | ND | 0.1 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 12:20 | ND | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 12:25 | ND | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 12:30 | ND | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| C | 12:35 | ND | 0.2 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 12:45 | 0.6 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 12:48 | ND | 0.5 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 12:50 | ND | 0.2 | ND | 21.3 | 6 | ND | ND | ND | ND | ND | ND | ND |
| K | 12:58 | 0.6 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 1:03 | 0.2 | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 1:05 | 0.2 | 0.1 | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1:10 | 1.5 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1:20 | 1.3 | 0.2 | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| P | 1:25 | 1.5 | 0.4 | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| E | 1:26 | 1.0 | 0.1 | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |

HCl, HF, $COCl_2$ - SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/24/01 RST: Martyniak

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1231 | ND | 0.1 | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1234 | ND | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1238 | ND | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1246 | ND | 0.1 | ND | 20.8 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1252 | ND | 0.1 | ND | 20.8 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| F | 1254 | ND | 0.1 | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1259 | 0.9 | 0.5 | ND | 20.8 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| C | 1303 | ND | 0.2 | ND | 20.8 | 2.0 | ND | ND | ND | ND | ND | ND | ND |
| B | 1305 | 0.2 | 0.8 | ND | 20.8 | 4.0 | ND | ND | ND | ND | ND | ND | ND |
| H | 1314 | ND | 0.1 | ND | 20.8 | 3.0 | ND | ND | ND | ND | ND | ND | ND |
| I | 1317 | ND | 0.1 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1323 | ND | 0.3 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1328 | ND | 0.3 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1333 | ND | 0.1 | ND | 20.7 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| V | 1336 | ND | 0.1 | ND | 20.7 | 1.0 | ND | ND | ND | ND | ND | ND | ND |
| S | 1352 | ND | 0.1 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1357 | ND | 0.1 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1400 | ND | 0.2 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |

HCl, HF, $COCl_2$ - SPM

Location A: Berkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 5 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Patrick Chen U.S. EPA: Norrell

Date: 12/19/01 RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2643 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 8:04 | 8:06 | 8:20 | | | |
| Stop Time | 14:24 | 14:25 | 14:29 | | | |
| Run Time (Minutes) | 379 | 379 | 369 | | | |
| Minimum Concentration (ug/m3) | 0.7 | 0.1 | 3.9 | | | |
| Maximum Concentration (ug/m3) | 204.0 | 305.8 | 140.6 | | | |
| Average Concentration (TWA) (ug/m3) | 25.7 | 33.6 | 22.3 | | | |

Page ___ of ___

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J. Brennan U.S. EPA: Norrell

Date: 12-20-01 RST Site Project Manager Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2643 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0811 | 0813 | 0836 | | | |
| Stop Time | 14:34 | 14:36 | 1440 | | | |
| Run Time (Minutes) | 382 | 383 | 363 | | | |
| Minimum Concentration (ug/m3) | 1.6 | 0.0 | 0.7 | | | |
| Maximum Concentration (ug/m3) | 118.5 | 153.8 | 116.3 | | | |
| Average Concentration (TWA) (ug/m3) | 10.7 | 11.4 | 8.0 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Metzger U.S. EPA: Norrell

Date: 9/21 RST Site Project Manager Brennan

| Location | L | R | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2648 | 2646 | 2643 | | | |
| Flow Rate (Liters / Minute) | 2 | 2 | 2 | | | |
| Start Time | 0659 | 0658 | 0703 | | | |
| Stop Time | 1530 | 1524 | 1536 | | | |
| Run Time (Minutes) | 512 | 505 | 512 | | | |
| Minimum Concentration (ug/m3) | 3.4 | 3.5 | 4.1 | | | |
| Maximum Concentration (ug/m3) | 142.2 | 624.5 | 152.0 | | | |
| Average Concentration (TWA) (ug/m3) | 21.7 | 17.5 | 17.3 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Adams, Brennan, Chan U.S. EPA: Norrell

Date: 12/22/01 RST Site Project Manager: Brennan

| Location | A | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No | 2643 | 2647 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0L | 2.0L | 2.0L | | | |
| Start Time | 0805 | 0809 | 0824 | | | |
| Stop Time | 14:01 | 14:05 | 14:08 | | | |
| Run Time (Minutes) | 355 | 355 | 343 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 0.0 | 0.5 | | | |
| Maximum Concentration (ug/m3) | 151.4 | 163.9 | 27 | | | |
| Average Concentration (TWA) (ug/m3) | 8.1 | 4.5 | 4.6 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Patrick Chan U.S. EPA: Norrell

Date: 12/23/01 RST Site Project Manager Brennan

| Location | K | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2646 | 2647 | 2643 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 8:13 | 8:16 | 8:36 | | | |
| Stop Time | 13:54 | 13:56 | 13:59 | | | |
| Run Time (Minutes) | 340 | 340 | 322 | | | |
| Minimum Concentration (ug/m3) | 0.1 | 0.0 | 3.4 | | | |
| Maximum Concentration (ug/m3) | 337.7 | 880 | 440.8 | | | |
| Average Concentration (TWA) (ug/m3) | 25.1 | 27.4 | 24.7 | | | |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/19/01**

| File Name | NYC504 | NYC505 | NYC506 | NYC507 | NYC509 | NYC508 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Town Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07239 | A07240 | A07241 | A07242 |
| Sample Height: | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 200 | RL |
| Chlorodifluoromethane | RL | RL | RL | 47 | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | 54 | RL | 88 |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 220 | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | 23 | RL | 44 |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | 30 | 160 | 120 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 290 |
| MTBE | RL | RL | RL | RL | RL | 30 |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | 41 |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 31 | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | 30 | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | 43 |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 290 | 32 |
| Heptane | RL | RL | RL | RL | RL | 120 |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 140 | 240 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | 31 |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | 230 | 23 |
| m&p-Xylenes | RL | RL | RL | RL | RL | 54 |
| o-Xylene | RL | RL | RL | RL | RL | 25 |
| Styrene | RL | RL | RL | RL | 52 | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
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**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/20/01**

| File Name | NYC513 | NYC514 | NYC515 | NYC516 | NYC518 | NYC517 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07243 | A07244 | A07245 | A07246 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 170 | 1900 |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 190 | 5500 |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | 610 |
| Chloroethane | RL | RL | RL | RL | RL | 200 |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | 22 |
| Isopropyl Alcohol | RL | RL | RL | 160 | RL | 1100 |
| Acetone | RL | RL | RL | 83 | 110 | 15000 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | 32 |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 44 |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | 160 |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 22 | 1700 |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | 24 |
| Tetrahydrofuran | RL | RL | RL | RL | 23 | 360 |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | 35 |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | 130 |
| Benzene | RL | RL | RL | RL | 210 | 4400 |
| Heptane | RL | RL | RL | RL | RL | 170 |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | 29 | RL | 120 |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | 380 |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 130 | 5900 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | 21 |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | 150 |
| Ethylbenzene | RL | RL | RL | RL | 210 | 7300 |
| m&p-Xylenes | RL | RL | RL | RL | RL | 240 |
| o-Xylene | RL | RL | RL | RL | RL | 93 |
| Styrene | RL | RL | RL | RL | 42 | 2400 |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | 57 |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | 55 |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | 33 |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | 35 |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/21/01**

| File Name | NYC448 | NYC449 | NYC450 | NYC451 | NYC453 | NYC452 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07247 | A07249 | A07250 | A07251 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 20 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 250 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 240 | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 540 | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | 21 |
| Acetone | RL | RL | RL | RL | 590 | 120 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 29 |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 130 | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | 55 | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 570 | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 170 | 29 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | 25 | RL |
| Ethylbenzene | RL | RL | RL | RL | 190 | RL |
| m&p-Xylenes | RL | RL | RL | RL | 26 | 37 |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | 61 | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/22/01**

| File Name | NYC536 | NYC537 | NYC539 | NYC540 | NYC541 | NYC543 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07252 | A07253 | A07254 | A07255 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 50 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | 1100 | 2200 |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | 74 |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 1000 | 7000 |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | 1000 |
| Chloroethane | RL | RL | RL | RL | RL | 230 |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | 1400 |
| Acetone | RL | RL | RL | 150 | 2300 | 26000 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 86 |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | 58 | 240 |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | 31 | 550 | 2200 |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | 240 | 450 |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | 75 |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | 110 |
| Benzene | RL | RL | RL | RL | 980 | 5400 |
| Heptane | RL | RL | RL | RL | RL | 230 |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | 52 | 78 | 110 |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | 650 |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 680 | 5100 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | 51 |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | 280 |
| Ethylbenzene | RL | RL | RL | RL | 660 | 5800 |
| m&p-Xylenes | RL | RL | RL | RL | 110 | 440 |
| o-Xylene | RL | RL | RL | RL | RL | 150 |
| Styrene | RL | RL | RL | RL | 220 | 2500 |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | 80 |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | 130 |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | 140 |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | 70 |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/23/01**

| File Name | NYC546 | NYC547 | NYC548 | NYC549 | NYC553 | NYC554 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07256 | A07259 | A07257 | A07258 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 50 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | 350 | 110 |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 140 | 700 |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | 130 | RL | RL |
| Acetone | RL | RL | RL | 910 | 700 | 2100 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | 55 | 54 | 150 |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 4400 | 310 |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | 61 |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 220 | 120 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | 220 | RL |
| Ethylbenzene | RL | RL | RL | RL | 140 | 64 |
| m&p-Xylenes | RL | RL | RL | RL | RL | 58 |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | 100 |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/26/01**

| File Name | NYC579 | NYC580 | NYC581 | NYC582 | NYC583 | NYC585 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Ten: Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07268 | A07269 | A07270 | A07271 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 50 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 2700 | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 1800 | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | 120 | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | 99 | 41 | 110 | RL |
| Acetone | RL | RL | RL | 270 | 5000 | 410 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | 170 | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | 59 | 1100 | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | 25 | 530 | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 4000 | RL |
| Heptane | RL | RL | RL | RL | 120 | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | 47 | 120 | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | 140 | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 1700 | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | 95 | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | 75 | RL |
| Ethylbenzene | RL | RL | RL | RL | 1900 | RL |
| m&p-Xylenes | RL | RL | RL | RL | 300 | RL |
| o-Xylene | RL | RL | RL | RL | 130 | RL |
| Styrene | RL | RL | RL | RL | 680 | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | 100 | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | 120 | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | 73 | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, December 28, 2001

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 2:00 p.m. on 12/28**

**Ambient Air Samples - lower Manhattan:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on December 27 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on December 27 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene exceeded the OSHA standard at the North Tower debris pile. Two of three other samples taken at EPA's Wash Tent (West St. and Murray) and the South Tower debris pile showed no detectable levels of benzene.

**Dioxin** - Five samples were collected at Park Row (three samples) and at Chambers and West Street (two samples) at roof top locations. None of the samples were above the EPA action level based on a 30-year exposure.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on December 27. No significant readings were found.

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/27/01**

| File Name | NYC588 | NYC589 | NYC590 | NYC591 | NYC593 | NYC595 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07272 | A07273 | A07274 | A07275 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 50 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | **3800** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **78** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **4500** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | **180** | RL |
| Chloroethane | RL | RL | RL | RL | **80** | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | **32** | **150** | RL |
| Acetone | RL | RL | RL | **1300** | **11000** | **700** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **310** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **270** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | **220** | **2000** | **95** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | **140** | **1700** | **100** |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | **29** | **4400** | RL |
| Heptane | RL | RL | RL | RL | **230** | **67** |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | **110** | **340** | **68** |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **270** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | **24** | **2700** | **160** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | **180** | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | **76** | RL |
| Ethylbenzene | RL | RL | RL | **44** | **3300** | **50** |
| m&p-Xylenes | RL | RL | RL | RL | **220** | RL |
| o-Xylene | RL | RL | RL | RL | **160** | RL |
| Styrene | RL | RL | RL | RL | **780** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | **67** | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | **82** | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/27/01 RST: H. Syverkrueger

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 0820 | NO | NO | NO | 21.1 | NO | ND | ND | ND | ND | ND | ND | ND |
| L | 0824 | NO | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 0830 | NO | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0842 | NO | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0857 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0913 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 0918 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0926 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0939 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0947 | ND | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1008 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| I | 1018 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| D | 1032 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| K | 1045 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| P | 1049 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| U | 1100 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| V | 1110 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| S | 1120 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| E | 1125 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* - Multi-RAE PID Malfunction
ND - Non-Detect

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location MI: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday - Monday, December 29 - 31, 2001

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on 12/31**

**Air: Fixed Monitors in New York:**
**Asbestos** - EPA analyzed 253 samples taken in and around ground zero from December 19 through December 26. In addition, EPA sampled for asbestos at three lower Manhattan locations from December 18 through 24. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,025, with 29 samples above the standard (27 of these were collected prior to September 30, one was collected on October 9 and the other on November 27).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Public School 154 (33 East 135th St., Bronx), Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from December 18 through 24. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - One hundred thirty-seven air samples collected from December 20 through 28 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on December 20 and 27-30 at the Staten Island Landfill. An increased reading was noted on Dec. 27 and 30. No other significant readings reported.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from December 21 through 28 at Pace University, Borough of Manhattan Community College, the Coast Guard building in Battery Park and on Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 $ug/m^3$ for all

stations. These results were also less than 40 ug/m$^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from December 21 through 28 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples December 28 through 30 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on December 25 and December 28 to 30 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene exceeded the OSHA standard on December 25 at the North Tower debris pile. There were no exceedances for benzene on the other three days. Eleven of fifteen other samples taken at EPA's Wash Tent (West St. and Murray) and the South Tower debris pile showed no detectable levels of benzene.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds from December 28 to 30. No significant readings were found.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, December 31, 2001**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 19, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 20, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 20, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

NYC / ER (Dec 21, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location V-duplicate) was not collected due to equipment malfunction.
Note: Low sample volumes recorded.

NYC / ER (Dec 21, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location T) was not collected since access to that location was not available.

NYC / ER (Dec 22, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location T) was not collected since access to that location was not available.

NYC / ER (Dec 22, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled.

NYC / ER (Dec 23, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled.

NYC / ER (Dec 23, 1200 - 2359)

All 20 samples analyzed were below the TEM AHERA standard.
1 sample (Location C) was not collected due to equipment malfunction.
1 location (Location T) was not sampled.

NYC / ER (Dec 24, 0001 - 1200)

All 23 samples analyzed were below the TEM AHERA standard.
Results include 2 samples from Location T that were previously set up on Dec. 21 and 22 but were not accessible on those days (see items listed above for those days).
1 location (Location T) was not sampled.

NYC / ER (Dec 24, 1200 - 2359)

Results pending.

NYC / ER (Dec 25, 0001 - 1200)

Results pending.

NYC / ER (Dec 25, 1200 - 2359 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 locations (Locations I and T) were not sampled.
Note: Low sample volumes recorded.

NYC / ER (Dec 26, 0001 - 1200 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 20, 0842 - 2158) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-6) was not collected since high winds blew sample off pump.

Fresh Kills (Dec 21, 0750 - 2204) - Asbestos

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-6) was not collected since high winds blew sample off pump.
1 location (Location O-17) was not sampled.

Fresh Kills (Dec 22, 0820 - 2200) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 location (Location O-19) was not sampled.

Fresh Kills (Dec 23, 0810 - 2145) - Asbestos

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location W-11) was not collected due to equipment malfunction.
1 sample (Location O-17) was not collected since access to that location was not available.
1 location (Location O-19) was not sampled.
Note: Low sample volume recorded.

Fresh Kills (Dec 24, 0905 - Dec 25, 0005) - Asbestos

All 15 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-6) was not collected since high winds blew sample off pump.
1 sample (Location B-13) was not collected due to equipment malfunction.
1 sample (Location O-17) was not collected since access to that location was not available.
1 location (Location O-19) was not sampled.

Fresh Kills (Dec 26, 0758 - 2205) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-14) was not collected due to equipment malfunction.

Fresh Kills (Dec 27, 0757 - 2235) - Asbestos

All 17 samples analyzed were below the TEM AHERA standard.
2 sample (Locations W-11 and MPHS-20) were not analyzed due to overloading of particulates.

Fresh Kills (Dec 28, 0756 - 2143) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location O-18) was not collected due to equipment malfunction.

Fresh Kills (Dec 20) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-1 and P-8) based on daily average concentrations.

Fresh Kills (Dec 27) - Particulate Monitoring (Dataram)

Increased readings noted at one (P-1) of three stations (P-1, P-2, and P-3) based on daily average concentrations.

Fresh Kills (Dec 28) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-1, P-2, P-3) based on daily average concentrations.

Fresh Kills (Dec 29) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-1, P-2, P-3) based on daily average concentrations.

Fresh Kills (Dec 30) - Particulate Monitoring (Dataram)

Increased readings noted at one (P-1) of three stations (P-1, P-2, and P-3) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Dec 21) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***7.20 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***7.75 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***6.12 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***8.86 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 21) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.83 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 22) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***7.92 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.58 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***6.31 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.53 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 22) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.47 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 23) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.34 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.64 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***13.42 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***15.10 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 23) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.89 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 24) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***12.16 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.77 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***10.05 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.23 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 24) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***15.35 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 25) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***7.58 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***7.31 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***6.94 ug/m$^3$***.

Wall Street - 24-hour average concentrations for this period was ***8.09 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 25) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***11.03 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 26) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.20 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.56 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***10.21 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***14.06 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Dec 26) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***28.37 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 27) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.92 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.96 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***10.15 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***12.87 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 27) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***21.38 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 28) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***15.03 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.71 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was ***9.83 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***12.78 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 28) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.52 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 18 - 24) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Coast Guard Building: Battery Park (Site 3)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 48 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
2 samples (Site 6 on Dec. 18 and Site 9 on Dec. 23) were not collected due to equipment malfunctions.
6 locations (Sites 6 and 7 on Dec. 21, Sites 3, 7, and 8 on Dec. 23, and Site 3 on Dec. 24) were not sampled.

NYC / ER (Dec 28) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 15.1 to 554.3 ug/$m^3$ with an average of 41.6 ug/$m^3$.
Station N values ranged from 8.4 to 100.0 ug/$m^3$ with an average of 20.3 ug/$m^3$.
Station R values ranged from 1.9 to 88.9 ug/$m^3$ with an average of 23.9 ug/$m^3$.

NYC / ER (Dec 29) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 18.8 to 174.3 ug/$m^3$ with an average of 35.4 ug/$m^3$.
Station N values ranged from 14.2 to 131.2 ug/$m^3$ with an average of 23.7 ug/$m^3$.
Station R values ranged from 9.6 to 99.9 ug/$m^3$ with an average of 23.2 ug/$m^3$.

NYC / ER (Dec 30) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 0.1 to 139.4 ug/$m^3$ with an average of 14.5 ug/$m^3$.
Station N values ranged from 0.1 to 82.8 ug/$m^3$ with an average of 13.7 ug/$m^3$.
Station R values ranged from 1.2 to 53.2 ug/$m^3$ with an average of 19.1 ug/$m^3$.

NYC / ER (Dec 25) - Volatile Organics (Mobile Laboratory)

Incorrectly noted in December 27 Sampling Situation Report that no samples were collected on this day.
Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
2 of the 3 of the other samples (Washing Tent and Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Dec 28) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (ranging from 20 ppbv to 50 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, South Tower), including in the debris area at ground level.

NYC / ER (Dec 29) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, South Tower), including in the debris area at ground level.

NYC / ER (Dec 30) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, South Tower), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Dec 28)

Nothing of significance reported.

NYC / ER (Dec 29)

Nothing of significance reported.

NYC / ER (Dec 30)

Nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/22/01**
**Sampling Date and Time: 12/19/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/19/01 | RST-02143 | L | 720 | Air | 7.64 | 0.004 | 0 | 0 | <7.87 | <0.0042 |
| 12/19/01 | RST-02144 | L-Dup | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02145 | M-1 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02146 | N | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/19/01 | RST-02147 | N-Dup | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02148 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02149 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02150 | F | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02151 | A | 720 | Air | 7.64 | 0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/19/01 | RST-02152 | B | 720 | Air | NA[1] | NA[1] | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02153 | C | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02154 | H | 1224* | Air | 11.46 | 0.004 | 0 | 0 | <15.75 | <0.0050 |
| 12/19/01 | RST-02155 | I | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02156 | D | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02157 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02158 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02159 | U | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02160 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02161 | S | 662 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0051 |
| 12/19/01 | RST-02162 | P | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 12/19/01 | RST-02163 | E | 1224* | Air | 7.64 | 0.002 | 0 | 0 | <8.75 | <0.0026 |
| 12/19/01 | RST-02164 | W | 463 | Air | NS | NS | NS | NS | NS | NS |
| 12/20/01 | FB122001 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/20/01 | TB122001 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method, except for samples RST-02154 and RST-02163; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-19-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/22/01**
**Sampling Date and Time: 12/20/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/20/01 | RST-02165 | L | 708 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0048 |
| 12/20/01 | RST-02166 | M-1 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02167 | M1-Dup | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02168 | N | 1224* | Air | 7.01 | 0.002 | 0 | 0 | <15.75 | <0.0050 |
| 12/20/01 | RST-02169 | J | 714 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02170 | J-Dup | 720 | Air | 12.10 | 0.0065 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02171 | Q | 870.4 | Air | 8.92 | 0.004 | 0 | 0 | <11.25 | <0.0050 |
| 12/20/01 | RST-02172 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02173 | A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02174 | B | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02175 | C | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02176 | H | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02177 | I | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02178 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02179 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02180 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02181 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02182 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02183 | S | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02184 | P | 244 | Air | <7.0 | <0.011 | 0 | 0 | <7.87 | <0.0124 |
| 12/20/01 | RST-02185 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | RST-02186 | W | 323 | Air | <7.0 | <0.008 | 0 | 0 | <7.87 | <0.0094 |
| 12/20/01 | FB122001 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/20/01 | TB122001 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method except for sample RST-02168; volume is based on pump reading

** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-20-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/27/01**
**Sampling Date and Time: 12/20/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/20/01 | RST-02187 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02188 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02189 | N | 36**** | Air | <7.0 | <0.075 | 0 | 0 | <8.00 | <0.0856 |
| 12/20/01 | RST-02190 | J | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02191 | Q | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02192 | F | 720 | Air | <7.0 | <0.004 | 0 | 5*** | 44.44 | 0.0238 |
| 12/20/01 | RST-02193 | A | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/20/01 | RST-02194 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02195 | C | 710 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02196 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02197 | I | 526 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0059 |
| 12/20/01 | RST-02198 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02199 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02200 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02201 | T-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02202 | U | 568 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 12/20/01 | RST-02203 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02204 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02205 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02206 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02207 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/20/01 | RST-02208 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | FB122101 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/21/01 | TB122101 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected.

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-20-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/21/01 0001 to 1200**

**Data Validation Date: 12/27/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/21/01 | RST-02209 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02210 | M-1 | 11**** | Air | <7.0 | <0.245 | 0 | 0 | <8.00 | <0.2800 |
| 12/21/01 | RST-02211 | N | 687 | Air | 8.28 | 0.005 | 0 | 0 | <8.00 | <0.0045 |
| 12/21/01 | RST-02212 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02213 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02214 | F | 244 | Air | <7.0 | <0.011 | 0 | 0 | <8.00 | <0.0126 |
| 12/21/01 | RST-02215 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02216 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02217 | C | 263 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0117 |
| 12/21/01 | RST-02218 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02219 | I | 422 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 12/21/01 | RST-02220 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02221 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02222 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02223 | U | 720 | Air | <7.0 | <0.004 | 0 | 2*** | 17.78 | 0.0095 |
| 12/21/01 | RST-02224 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | - | V-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | RST-02225 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02226 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02227 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02228 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02229 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | FB122101 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/21/01 | TB122101 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading.
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-21-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/26/01**
**Sampling Date and Time: 12/21/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 12/21/01 | RST-02230 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02231 | M1 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02232 | N | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02233 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02234 | Q | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02235 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02236 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02237 | B | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02238 | C | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02239 | H | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02240 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02241 | I | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/21/01 | RST-02242 | D | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02243 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | RST-02244 | U | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/21/01 | RST-02245 | V | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/21/01 | RST-02246 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02247 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02248 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02249 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02250 | W | 720 | Air | 17.83 | 0.0095 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | FB122201 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/22/01 | TB122201 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading

** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/26/01**
**Sampling Date and Time: 12/22/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/22/01 | RST-02251 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02252 | M-1 | 620 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 12/22/01 | RST-02253 | N | 680 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/22/01 | RST-02254 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02255 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02256 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02257 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02258 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02259 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02260 | H | 716 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02261 | I | 696 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/22/01 | RST-02262 | I-Duplicate | 691 | Air | 10.19 | 0.006 | 0 | 0 | <8.00 | <0.0045 |
| 12/22/01 | RST-02263 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02264 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/22/01 | RST-02265 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02266 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02267 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02268 | P | 710 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02269 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02270 | E-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02271 | W | 636 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0048 |
| 12/22/01 | FB122201 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/22/01 | TB122201 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-22-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/26/0**
**Sampling Date and Time: 12/22/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 12/22/01 | RST-02272 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02273 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02274 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02275 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02276 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02277 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02278 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02279 | A-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02280 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02281 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02282 | C-Duplicate | 693 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 12/22/01 | RST-02283 | H | 467 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 12/22/01 | RST-02284 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02285 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02286 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02287 | U | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02288 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02289 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02290 | P | 248 | Air | <7.0 | <0.011 | 0 | 0 | <8.00 | <0.0124 |
| 12/22/01 | RST-02291 | E | 6**** | Air | <7.0 | <0.450 | 0 | 0 | <8.00 | <0.5133 |
| 12/22/01 | RST-02292 | W | 720 | Air | 15.92 | 0.009 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | FB122301 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/23/01 | TB122301 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/26/01**
**Sampling Date and Time: 12/23/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/23/01 | RST-02293 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02294 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02295 | N | 649 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/23/01 | RST-02296 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02297 | Q | 479 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0064 |
| 12/23/01 | RST-02298 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02299 | A | 383 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0080 |
| 12/23/01 | RST-02300 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02301 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02302 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02303 | H | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/23/01 | RST-02304 | I | 512 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0060 |
| 12/23/01 | RST-02305 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02306 | D-Duplicate | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02307 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02308 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02309 | V | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02310 | S | 713 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02311 | P | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02312 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02313 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | FB122301 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/23/01 | TB122301 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading.
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted at this time

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/20/01 0842 to 2158**

**Data Validation Date: 12/22/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/20/01 | LF01691 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01692 | P-2 | 531 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0063 |
| 12/20/01 | LF01693 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01694 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01695 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01696 | P-6 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/20/01 | LF01697 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01698 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01699 | W-11 | 720 | Air | 11.46 | 0.006 | 0 | 1*** | 8.75 | 0.0047 |
| 12/20/01 | LF01700 | W-12A | 720 | Air | 11.46 | 0.006 | 4*** | 0 | 35.00 | 0.0187 |
| 12/20/01 | LF01701 | W-12B | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/20/01 | LF01702 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01703 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01704 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01705 | T-16 | 720 | Air | 7.64 | 0.004 | 1*** | 1*** | 17.50 | 0.0094 |
| 12/20/01 | LF01706 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01707 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01708 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01709 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/20/01 | LF01710 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |
| 12/20/01 | LF01711 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysolile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-20-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/18/01 1200 to 2400**

**Data Validation Date: 12/22/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/18/01 | 7093-18-0082 | Park Row | 1344 | Air | 8.92 | 0.003 | 0 | 0 | <15.75 | <0.0045 |
| 12/18/01 | 7093-19-0082 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 12/18/01 | 7093-20-0082 | Coast Guard | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 12/18/01 | 7093-15-0081 | Manhattan PS #143 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/18/01 | 7094-09-0071 | Bronx PS #154 | 1420 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 12/18/01 | 7096-12-0076 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 12/18/01 | 7095-98-0078 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 12/18/01 | 7097-18-0074 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/19/01 1200 to 2400**

**Data Validation Date: 12/27/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 12/19/01 | [a] 7093-18- | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | [a] 7093-19- | Chambers Street | 1032*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 12/19/01 | [a] 7093-20- | Coast Guard | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | 7093-15-0082 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | 7094-09-0072 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | 7096-12-0077 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | 7095-98-0079 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/19/01 | 7097-18-0075 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable
[a] Sample number was incomplete.

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/20/01 1200 to 2400**

**Data Validation Date: 12/26/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 12/20/01 | 7093-18-0084 | Park Row | 1340 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 12/20/01 | 7093-19-0084 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7093-20-0084 | Coast Guard | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7093-15-0083 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7094-09-0073 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7096-12-0078 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7095-98-0080 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/20/01 | 7097-18-0076 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/21/01 1200 to 2400**

**Data Validation Date: 12/26/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 12/21/01 | 7093-18-0085 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/21/01 | 7093-19-0085 | Chambers Street | 1340 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 12/21/01 | 7093-20-0085 | Coast Guard | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 12/21/01 | - | Manhattan PS #143 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | 7094-09-0074 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/21/01 | 7096-12-0079 | Queens PS #199 | 1270 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 12/21/01 | - | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | 7097-18-0077 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/30/01**
**Sampling Date and Time: 12/25/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 12/25/01 | RST-02398 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02399 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02400 | N | 185**** | Air | <7.0 | <0.015 | 0 | 0 | <8.00 | <0.0166 |
| 12/25/01 | RST-02401 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/25/01 | RST-02402 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02403 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02404 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02405 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02406 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02407 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02408 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | - | I | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/25/01 | RST-02409 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02410 | K | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 12/25/01 | RST-02411 | U | 239 | Air | <7.0 | <0.011 | 0 | 0 | <8.89 | <0.0143 |
| 12/25/01 | RST-02412 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02413 | S | 620 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0055 |
| 12/25/01 | RST-02414 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02415 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02416 | W | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | FB122601 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/26/01 | TB122601 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/30/01**
**Sampling Date and Time: 12/26/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/26/01 | RST-02417 | L | 688 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/26/01 | RST-02418 | M-1 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02419 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02420 | J | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/26/01 | RST-02421 | Q | 680 | Air | <7.0 | <0.004 | 3*** | 1*** | 32.00 | 0.0181 |
| 12/26/01 | RST-02422 | F | 720 | Air | <7.0 | <0.004 | 4*** | 0 | 35.56 | 0.0190 |
| 12/26/01 | RST-02423 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02424 | B | 652 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0047 |
| 12/26/01 | RST-02425 | B-Dup | 718 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 12/26/01 | RST-02426 | C | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02427 | H | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02428 | I | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02429 | D | 720 | Air | <7.0 | <0.004 | 1*** | 2*** | 26.67 | 0.0143 |
| 12/26/01 | RST-02430 | K | 669 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/26/01 | RST-02431 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02432 | V | 446 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0069 |
| 12/26/01 | RST-02433 | S | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/26/01 | RST-02434 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02435 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02436 | W | 518 | Air | <7.0 | <0.005 | 1*** | 0 | 8.00 | 0.0059 |
| 12/26/01 | FB122601 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/26/01 | TB122601 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-26-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/21/01 0750 to 2204**

**Data Validation Date: 12/27/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/21/01 | LF01712 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01713 | P-2 | 666 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 12/21/01 | LF01714 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01715 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01716 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01717 | P-6 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | LF01718 | P-7 | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/21/01 | LF01719 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01720 | W-11 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01721 | W-12A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01722 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01723 | B-13 | 716 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01724 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01725 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01726 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01727 | O-17 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/21/01 | LF01728 | O-18 | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01729 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01730 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/21/01 | LF01731 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |
| 12/21/01 | LF01732 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-21-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/22/01 0820 to 2200[a]**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/22/01 | LF01733 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01734 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01735 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01736 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01737 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01738 | P-6 | 615 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0055 |
| 12/22/01 | LF01739 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01740 | P-8 | 720 | Air | <7.0 | <0.004 | 2*** | 1*** | 26.25 | 0.0140 |
| 12/22/01 | LF01741 | W-11 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01742 | W-12A | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01743 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01744 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01745 | B-14 | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/22/01 | LF01746 | T-15 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/22/01 | LF01747[a] | T-16 | 1386 | Air | <7.0 | <0.002 | 0 | 0 | <8.75 | <0.0024 |
| 12/22/01 | LF01748 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01749 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01750 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/22/01 | LF01751 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/22/01 | LF01752 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted
[a] - Sample LF01747 (T-16) was collected 12/22/01 1005 to 12/23/01 0911

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-22-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/23/01 0810 to 2145**

**Data Validation Date: 12/28/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/23/01 | LF01753 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01754 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01755 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01756 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01757 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01758 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01759 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01760 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01761 | W-11 | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 12/23/01 | LF01762 | W-12A | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01763 | W-12B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01764 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01765 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01766 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01767 | T-16 | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01768 | O-17 | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] |
| 12/23/01 | LF01769 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/23/01 | LF01770 | MPHS-20 | 110**** | Air | <7.0 | <0.025 | 0 | 0 | <8.75 | <0.0306 |
| 12/23/01 | LF01771 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/23/01 | LF01772 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS[1] - Sample not submitted due to no sample volume
NS[2] - Sample not submitted at this time due to no access to station location

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-23-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/24/01 0905 to 12/25/01 0005[a]**

**Data Validation Date: 12/28/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/24/01 | LF01773 | P-1 | 900 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 12/24/01 | LF01774 | P-2 | 564 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0054 |
| 12/24/01 | LF01775 | P-3 | 804 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0047 |
| 12/24/01 | LF01776 | P-4 | 775 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0049 |
| 12/24/01 | LF01777 | P-5 | 788 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0048 |
| 12/24/01 | LF01778 | P-6 | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 12/24/01 | LF01779 | P-7 | 748 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0045 |
| 12/24/01 | LF01780 | P-8 | 834 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0045 |
| 12/24/01 | LF01781 | W-11 | 830 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0046 |
| 12/24/01 | LF01782 | W-12A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/24/01 | LF01783 | W-12B | 809 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0047 |
| 12/24/01 | LF01784 | B-13 | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 12/24/01 | LF01785 | B-14 | 507 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0060 |
| 12/24/01 | LF01786[a] | T-15 | 2638 | Air | <7.0 | <0.001 | 0 | 0 | <19.69 | <0.0029 |
| 12/24/01 | LF01787[a] | T-16 | 2647 | Air | <7.0 | <0.001 | 0 | 0 | <19.69 | <0.0029 |
| 12/24/01 | LF01788 | O-17 | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] |
| 12/24/01 | LF01789 | O-18 | 800 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0047 |
| 12/24/01 | LF01790 | MPHS-20 | 839 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0045 |
| 12/24/01 | LF01791 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/24/01 | LF01792 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS[1] - Sample not submitted due to no sample volume
NS[2] - Sample not submitted at this time due to no access to station location
[a] - Sample LF01786 (T-15) was collected 12/24/01 0940 to 12/26/01 0538
Sample LF01787 (T-16) was collected 12/24/01 0943 to 12/26/01 0550

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-24-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/22/01 1200 to 2400 and 12/21/01 1200 to 2400 (for sample 7093-15-0084)**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 12/22/01 | 7093-18-0086 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/22/01 | 7093-19-0086 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/22/01 | 7093-20-0086 | Coast Guard | 1408 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 12/21/01 | 7093-15-0084 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/22/01 | 7094-09-0075 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/22/01 | 7096-12-0080 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/22/01 | 7095-98-0081 | Brooklyn PS #274 | 1136*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 12/22/01 | 7097-18-0078 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/23/01 1200 to 2400**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/23/01 | 7093-18-0087 | Park Row | 1234 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 12/23/01 | 7093-19-0087 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| - | - | Coast Guard | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/23/01 | 7093-15-0085 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/23/01 | 7094-09-0076 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/23/01 | 7096-12-0081 | Queens PS #199 | NR | Air | NR | NR | NR | NR | NR | NR |
| - | - | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| - | - | Staten Island PS #44 | NS | Air | NS | NS | NS | NS | NS | NS |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/23/01 1200 to 2359**

**Data Validation Date: 12/27/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/23/01 | RST-02314 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02315 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02316 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02317 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02318 | M1 | 451 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 12/23/01 | RST-02319 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02320 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02321 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02322 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02323 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | - | C | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/23/01 | RST-02324 | H | 698 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/23/01 | RST-02325 | I | 599 | Air | <7.0 | <0.0045 | 0 | 0 | <8.00 | <0.0051 |
| 12/23/01 | RST-02326 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02327 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02328 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02329 | V | 514 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0060 |
| 12/23/01 | RST-02330 | S | 366 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0084 |
| 12/23/01 | RST-02331 | P | 390 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0079 |
| 12/23/01 | RST-02332 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/23/01 | RST-02333 | W | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 12/24/01 | FB122401 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/24/01 | TB122401 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysolite
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-23-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/24/01 0001 to 1200**

**Data Validation Date: 12/27/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/24/01 | RST-02334 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02335 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02336 | M1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02337 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02338 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02339 | J-Duplicate | 680 | Air | <7.0 | <0.004 | 1*** | 0 | 8 | 0.0045 |
| 12/24/01 | RST-02340 | Q | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/24/01 | RST-02341 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02342 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02343 | C | 584 | Air | <7.0 | <0.005 | 0 | 0 | <8.89 | <0.0059 |
| 12/24/01 | RST-02344 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02345 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02346 | I | 477 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0065 |
| 12/24/01 | RST-02347 | D | 366 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0084 |
| 12/24/01 | RST-02348 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02349 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02350 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02351 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02352 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02353 | E | 693 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 12/24/01 | RST-02354 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/21/01 | RST-02355 | T[1] | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/22/01 | RST-02356 | T[2] | 672 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0051 |
| 12/24/01 | FB122401 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/24/01 | TB122401 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
T[1] - Sample collected on 12/21/01 1200 to 2359
T[2] - Sample collected on 12/22/01 0001 to 1200

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-24-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/26/01 0758 to 2205**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/26/01 | LF01793 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01794 | P-2 | 576 | Air | 10.19 | 0.007 | 1*** | 0 | 8.75 | 0.0058 |
| 12/26/01 | LF01795 | P-3 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01796 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01797 | P-5 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01798 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01799 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01800 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01801 | W-11 | 720 | Air | 10.19 | 0.005 | 0 | 1**** | 8.75 | 0.0047 |
| 12/26/01 | LF01802 | W-12A | 720 | Air | 20.38 | 0.011 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01803 | W-12B | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01804 | B-13 | 720 | Air | 12.74 | 0.007 | 2*** | 0 | 17.50 | 0.0094 |
| - | LF01805 | B-14 | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/26/01 | LF01806 | T-15 | 720 | Air | 14.65 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01807 | T-16 | 720 | Air | 14.01 | 0.0075 | 0 | 1*** | 8.75 | 0.0047 |
| 12/26/01 | LF01808 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01809 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/26/01 | LF01810 | O-19 | 533 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0063 |
| 12/26/01 | LF01811 | MPHS-20 | 707 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/26/01 | LF01812 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |
| 12/26/01 | LF01813 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-26-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/27/01 0757 to 2235**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/27/01 | LF01814 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01815 | P-2 | 548 | Air | <7.0 | <0.005 | 1*** | 0 | 8.75 | 0.0061 |
| 12/27/01 | LF01816 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01817 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01818 | P-5 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/27/01 | LF01819 | P-6 | 611 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0055 |
| 12/27/01 | LF01820 | P-7 | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/27/01 | LF01821 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01822 | W-11 | 720 | Air | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] |
| 12/27/01 | LF01823 | W-12A | 720 | Air | NA[1] | NA[1] | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01824 | W-12B | 720 | Air | <7.0 | <0.004 | 5*** | 0 | 43.74 | 0.0234 |
| 12/27/01 | LF01825 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01826 | B-14 | 675 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 12/27/01 | LF01827 | T-15 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01828 | T-16 | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/27/01 | LF01829 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01830 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01831 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/27/01 | LF01832 | MPHS-20 | 720 | Air | <7.0 | <0.004 | NA[1] | NA[1] | NA[1] | NA[1] |
| 12/27/01 | LF01833 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/27/01 | LF01834 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-27-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/28/01 0756 to 2143**

**Data Validation Date: 12/30/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/28/01 | LF01835 | P-1 | 720 | Air | 8.92 | 0.005 | 0 | 1*** | 8.75 | 0.0047 |
| 12/28/01 | LF01836 | P-2 | 576 | Air | 8.92 | 0.006 | 0 | 0 | <7.87 | <0.0053 |
| 12/28/01 | LF01837 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01838 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01839 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01840 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01841 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01842 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01843 | W-11 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01844 | W-12A | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01845 | W-12B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01846 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01847 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01848 | T-15 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01849 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01850 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01851 | O-18 | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/28/01 | LF01852 | O-19 | 674 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 12/28/01 | LF01853 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/28/01 | LF01854 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/28/01 | LF01855 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-28-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/24/01 1200 to 2400[a]**

**Data Validation Date: 12/30/2001**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/24/01 | 7093-18-0088 | Park Row | 1256 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 12/24/01 | 7093-19-0088 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/24/01 | 7093-20- | Coast Guard | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/24/01 | 7093-15-0086 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/24/01 | 7094-09-0077 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/24/01 | 7096-12-0082 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/23/01 | 7095-98-0082[a] | Brooklyn PS #274 | 1208 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0051 |
| 12/23/01 | 7097-18-0079[a] | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

[a] - Sample 7095-98-0082 (Brooklyn PS #274) was collected 12/23/01 1200 to 2204
Sample 7097-18-0079 (Staten Island PS #44) was collected 12/23/01 1200 to 2400

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

ext-12-24-01pm.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 20, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 64 | 16:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 30.2 | 808.6 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0 | 0 | 0 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2083 | 1 | 17 | 4:15:00 | 10 | 00:15:00 | 0 | 0.0 | 0.0 | 12.3 | 86.6 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 27, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 122.4 | 3274.2 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 43 | 10:45:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 41 | 1459.5 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 40.6 | 732.9 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
December 28, 2001

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 8.8 | 35.1 | 616.5 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 0.1 | 40.2 | 1015.6 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 40.8 | 615.8 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 29, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 15.9 | 37.9 | 280.4 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 5.1 | 26.2 | 990.6 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 5.0 | 24.5 | 234.0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
December 30, 2001

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 20.5 | 244.8 | 2355 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 36.4 | 3032.7 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 32 | 8:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 23.8 | 615 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/25/01**

| File Name | NYC569 | NYC570 | NYC571 | NYC572 | NYC574 | NYC575 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07264 | A07267 | A07265 | A07266 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 50 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 100 | 50 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | **1700** | **330** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **910** | **280** |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | **320** | **34** | RL | **230** |
| Acetone | RL | RL | **360** | **140** | **3200** | **4100** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **98** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **110** | **57** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | **26** | **660** | **290** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **290** | **70** |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **3700** | **390** |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | **40** | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | **110** |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **1400** | **260** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **1300** | **130** |
| m&p-Xylenes | RL | RL | RL | RL | **190** | **130** |
| o-Xylene | RL | RL | RL | RL | RL | **53** |
| Styrene | RL | RL | RL | RL | **320** | **200** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
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**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/25/01**

| File Name | NYC569 | NYC570 | NYC571 | NYC572 | NYC574 | NYC575 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07264 | A07267 | A07265 | A07266 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 50 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 100 | 50 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | **1700** | **330** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **910** | **280** |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | **320** | **34** | RL | **230** |
| Acetone | RL | RL | **360** | **140** | **3200** | **4100** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **98** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **110** | **57** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | **26** | **660** | **290** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **290** | **70** |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **3700** | **390** |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | **40** | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | **110** |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **1400** | **260** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **1300** | **130** |
| m&p-Xylenes | RL | RL | RL | RL | **190** | **130** |
| o-Xylene | RL | RL | RL | RL | RL | **53** |
| Styrene | RL | RL | RL | RL | **320** | **200** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/28/01**

| File Name | NYC598 | NYC599 | NYC600 | NYC601 | NYC602 | NYC603 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07276 | A07277 | A07278 | A07279 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 100 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 50 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | **260** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **320** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | **33** | RL | RL | RL |
| Acetone | RL | RL | **76** | RL | **120** | **62** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **200** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **260** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | **93** | **22** | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **95** | **100** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **140** | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/29/01**

| File Name | NYC607 | NYC608 | NYC609 | NYC610 | NYC612 | NYC611 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07280 | A07281 | A07282 | A07283 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **520** | **46** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **140** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | **220** | **46** | RL | **60** |
| Acetone | RL | RL | RL | **290** | **530** | **1400** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | **57** | **120** | **150** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | **25** | **55** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **650** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | **39** | RL | **32** |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | **23** |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **300** | RL |
| trans-1,3-Dichlorpropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **380** | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **120** | **28** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/30/01**

| File Name | NYC617 | NYC618 | NYC620 | NYC624 | NYC621 | NYC623 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07284 | A07285 | A07286 | A07287 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **150** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **21** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **58** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **90** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **40** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | **31** | **430** | **65** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **330** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **21** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **51** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **190** | RL |
| Heptane | RL | RL | RL | RL | RL | **63** |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **130** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **39** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | **32** |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: D. Adams

U.S. EPA: Norrell

Date: 12/30/01

RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2643 | 2647 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0814 | 0815 | 0835 | | | |
| Stop Time | 1444 | 1450 | 1453 | | | |
| Run Time (Minutes) | 390 | 395 | 378 | | | |
| Minimum Concentration (ug/m3) | 1.2 | 0.1 | 0.1 | | | |
| Maximum Concentration (ug/m3) | 53.2 | 139.4 | 82.8 | | | |
| Average Concentration (TWA) (ug/m3) | 19.1 | 14.5 | 13.7 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/29/01 (Early) RST: D. Adams Team

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 0814 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| L | 0815 | ND | ND | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0828 | 0.1 | 0.1 | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0837 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0844 | 0.2 | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| O | 0848 | ND | ND | ND | 21.0 | 6 | ND | ND | ND | ND | ND | ND | ND |
| F | 0852 | 1.1 | ND | ND | 21.0 | 3 | ND | ND | ND | ND | ND | ND | ND |
| A | 0904 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0908 | 1.8 | 0.9 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 0913 | 1.0 | 0.6 | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 0922 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0928 | ND | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 0936 | 0.9 | 0.3 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| K | 0945 | 2.5 | 0.9 | ND | 21.0 | 2 | ND | ND | ND | ND | ND | ND | ND |
| U | 0953 | ND | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1001 | ND | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1016 | ND | 0.3 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1021 | 1.4 | 0.5 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1031 | 6.2 | 2.2 | ND | 21.1 | 14 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/29/01 (Late.)

RST: D. Adams Team

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1220 | NO | NO | NO | 21.1 | 1 | NO | NO | NO | NO | NO | NO | NO |
| M1 | 1225 | 0.8 | 0.3 | NO | 21.0 | 1 | NO | NO | NO | NO | NO | NO | NO |
| N | 1231 | NO | NO | NO | 21.0 | 3 | NO | NO | NO | NO | NO | NO | NO |
| J | 1235 | NO | NO | NO | 20.9 | NO | NO | NO | NO | NO | NO | NO | NO |
| Q | 1238 | NO | NO | NO | 20.9 | NO | NO | NO | NO | NO | NO | NO | NO |
| F | 1240 | 1.0 | 1.2 | NO | 21.0 | 2 | NO | NO | NO | NO | NO | NO | NO |
| A | 1248 | 1.2 | 0.7 | NO | 21.0 | 1 | NO | NO | NO | NO | NO | NO | NO |
| C | 1254 | 1.1 | 0.7 | NO | 21.0 | NO | NO | NO | NO | NO | NO | NO | NO |
| B | 1257 | 0.4 | NO | NO | 21.0 | NO | NO | NO | NO | NO | NO | NO | NO |
| H | 1310 | NO | NO | NO | 21.1 | NO | NO | NO | NO | NO | NO | NO | NO |
| I | 1314 | 3.1 | 1.4 | NO | 21.1 | 3 | NO | NO | NO | NO | NO | NO | NO |
| D | 1320 | 0.6 | 0.2 | NO | 21.1 | NO | NO | NO | NO | NO | NO | NO | NO |
| K | 1326 | 0.3 | NO | NO | 21.1 | NO | NO | NO | NO | NO | NO | NO | NO |
| U | 1333 | NO | NO | NO | 21.0 | 1 | NO | NO | NO | NO | NO | NO | NO |
| S | 1349 | NO | NO | NO | 21.1 | NO | NO | NO | NO | NO | NO | NO | NO |
| P | 1353 | 0.5 | 0.2 | NO | 21.0 | 1 | NO | NO | NO | NO | NO | NO | NO |
| E | 1400 | NO | NO | NO | 21.0 | NO | NO | NO | NO | NO | NO | NO | NO |
| | | | | | | | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ |
| | | | | | | | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ | ~~NO~~ |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/30/01 (Early) RST: D. Adams Team

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 0809 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| L | 0815 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| M1 | 0825 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| N | 0832 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| J | 0841 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| Q | 0846 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| F | 0851 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| A | 0901 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| C | 0910 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| B | 0915 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| H | 0925 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| I | 0930 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| D | 0942 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| K | 0945 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| U | 0955 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| V | 1000 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| S | 1015 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| P | 1020 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| E | 1028 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* - Multi-RAE Malfunction/Low Battery

Location A: Berkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/30/01 (Late) RST: D. Adams Team

| Location | Time | PID (units) | FID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1225 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| M1 | 1229 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| N | 1233 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| J | 1238 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| Q | 1243 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| F | 1246 | ND | * | * | 21.1 | * | * | ND | ND | ND | ND | ND | ND |
| A | 1256 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| C | 1264 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| B | 1259 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| H | 1311 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| I | 1315 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| D | 1320 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | ND |
| K | 1330 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | ND |
| U | 1336 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | * |
| V | 1344 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | * |
| S | 1350 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | * |
| P | 1352 | ND | * | * | 20.9 | * | * | ND | ND | ND | ND | ND | * |
| E | 1358 | ND | * | * | 21.0 | * | * | ND | ND | ND | ND | ND | * |

* - Equipment Malfunction/Low Battery (cold)

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West.
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Sylvain

U.S. EPA: Norrell

Date: 12/28/01

RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2643 | 2646 | 2647 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0752 | 0755 | 0818 | | | |
| Stop Time | 1410 | 1413 | 1427 | | | |
| Run Time (Minutes) | 377 | 377 | 366 | | | |
| Minimum Concentration (ug/m3) | 1.9 | 15.1 | 8.4 | | | |
| Maximum Concentration (ug/m3) | 88.7 | 557.3 | 100 | | | |
| Average Concentration (TWA) (ug/m3) | 23.9 | 41.6 | 20.3 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: D. Adams U.S. EPA: Norrell

Date: 12/29/01 RST Site Project Manager: Brennan

| Location | R | L | N | ? | ? | ? |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2643 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0814 | 0815 | 0835 | | | |
| Stop Time | 1422 | 1426 | 1434 | | | |
| Run Time (Minutes) | 368 | 371 | 359 | | | |
| Minimum Concentration (ug/m3) | 9.6 | 18.8 | 14.2 | | | |
| Maximum Concentration (ug/m3) | 99.9 | 174.3 | 131.2 | | | |
| Average Concentration (TWA) (ug/m3) | 23.2 | 35.4 | 23.7 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/28/01 (Early) RST: J. Brenner team

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0755 | 0.5 | 0.1 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0815 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0822 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0835 | 0.1 | 0.1 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0837 | ND | ND | 0.5 | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 0845 | 0.6 | 0.1 | 0.9 | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0847 | 0.6 | 0.1 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0858 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0905 | 0.1 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0918 | 0.1 | 0.3 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0929 | ND | ND | 0.5 | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0938 | 0.1 | 0.2 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 0945 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 0958 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1000 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1001 | ND | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1020 | ND | 0.4 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1025 | ND | 0.6 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 1028 | 0.1 | 0.8 | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | ND |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/28/01 (Late) RST: J. Brennan Team

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1222 | 0.1 | NO | ND | 21.2 | NO | ND | ND | ND | NO | ND | ND | ND |
| M1 | 1225 | NO | NO | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1228 | 0.6 | 0.1 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1232 | 0.7 | 0.1 | NO | 21.2 | ND | ND | ND | ND | ND | ND | NO | ND |
| Q | 1235 | 0.5 | 0.1 | NO | 21.2 | 6 | NO | ND | ND | NO | NO | NO | ND |
| F | 1240 | NO | 0.1 | NO | 21.2 | NO | NO | ND | ND | NO | NO | NO | ND |
| A | 1244 | 0.5 | 0.2 | ND | 21.2 | NO | ND | ND | NO | NO | ND | ND | ND |
| C | 1247 | 0.6 | 0.1 | NO | 21.2 | 5 | NO | NO | NO | NO | ND | NO | NO |
| B | 1249 | 0.4 | 0.1 | NO | 21.2 | 6 | NO | NO | NO | NO | NO | NO | NO |
| H | 1305 | 0.7 | NO | NO | 21.2 | 1 | NO | NO | NO | NO | NO | NO | NO |
| I | 1310 | 1.0 | 0.1 | ND | 21.2 | 1 | NO | NO | NO | NO | NO | NO | NO |
| D | 1319 | 0.8 | 0.8 | NO | 21.2 | 1 | NO | NO | NO | NO | NO | NO | NO |
| K | 1325 | 1.0 | 0.5 | ND | 21.2 | 1 | NO | NO | NO | NO | NO | NO | NO |
| T | 1330 | 1.0 | 0.1 | NO | 21.2 | 1 | NO | NO | NO | NO | NO | NO | * ND |
| U | 1334 | 1.1 | NO | NO | 21.2 | NO | NO | NO | NO | NO | NO | NO | * ND |
| V | 1337 | 1.1 | NO | NO | 21.2 | NO | NO | NO | NO | NO | NO | NO | * ND |
| S | 1345 | 0.8 | 0.1 | ND | 21.2 | NO | ND | NO | NO | NO | NO | NO | * ND |
| P | 1348 | 1.1 | NO | NO | 21.2 | NO | NO | NO | NO | NO | NO | NO | * ND |
| E | 1354 | 0.9 | NO | NO | 21.2 | NO | NO | NO | NO | NO | NO | NO | * ND |

* - Battery Malfunction

Location A: Barclay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday - Wednesday, January 1 - 2, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:00 p.m. on 1/2**

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted on December 29 and 30 at Pace University, Borough of Manhattan Community College, the Coast Guard building in Battery Park and on Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 $ug/m^3$ for all stations. These results were also less than 40 $ug/m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on December 29 and 30 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on December 31 and January 1 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on December 31 and January 1 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene exceeded the OSHA standard on December 31 at the North Tower debris pile. There were no exceedances for benzene on January 1. All six samples taken at EPA's Wash Tent (West St. and Murray), Austin Tobin Plaza and the South Tower debris pile on both days showed no detectable levels of benzene.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds from December 31 and January 1. No significant readings were found.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, January 2, 2002**

Ambient Air Sampling Locations

NYC / ER (Dec 29) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.78 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.37 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.35 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).
Note: Monitoring at the Coast Guard Station has ended.

NYC / ER (Dec 29) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.69 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 30) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.29 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.74 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***8.87 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 30) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***15.52 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 31) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 4.4 to 2555.1 ug/m³ with an average of 30.1 ug/m³.
Station N values ranged from 8.0 to 125.8 ug/m³ with an average of 21.3 ug/m³.
Station R values ranged from 10.9 to 84.0 ug/m³ with an average of 25.4 ug/m³.

NYC / ER (January 1, 2002) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 0.1 to 96.0 ug/m³ with an average of 16.3 ug/m³.
Station N values ranged from 8.1 to 38.0 ug/m³ with an average of 15.4 ug/m³.
Station R values ranged from 0.3 to 89.6 ug/m³ with an average of 16.8 ug/m³.

NYC / ER (Dec 31) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
Benzene concentration noted at North Tower debris area at ground level was 14 ppm.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Jan 1, 2002) Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
All 3 of the other samples (Location R, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Dec 31)

Nothing of significance reported.

NYC / ER (Jan 1, 2002)

Nothing of significance reported.

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 12/31/01**

| File Name | NYC627 | NYC628 | NYC629 | NYC630 | NYC634 | NYC631 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07288 | A07291 | A07289 | A07290 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 20 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 250 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **10000** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **840** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | **24** |
| Acetone | RL | RL | RL | RL | **13000** | **380** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **500** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **2900** | **44** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **890** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **14000** | RL |
| Heptane | RL | RL | RL | RL | **420** | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **260** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **7700** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **7000** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **1000** | RL |
| o-Xylene | RL | RL | RL | RL | **510** | RL |
| Styrene | RL | RL | RL | RL | **1100** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | **570** | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/01/02**

| File Name | NYC638 | NYC639 | NYC646 | NYC641 | NYC645 | NYC642 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Location R<br>Ambient Air | Austin Tobin Plaza | North Tower<br>Plume | South Tower<br>Plume |
| Sample Number | | | A07296 | A07293 | A07294 | A07295 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | **190** | **21** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **190** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | **44** |
| Acetone | RL | RL | **24** | **83** | **750** | **1300** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **120** | **130** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | **55** |
| Benzene | RL | RL | RL | RL | **430** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **94** | RL |
| trans-1,3-Dichoropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **91** | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | **27** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: _____ U.S. EPA: Norrell

Date: 12/3/01 RST Site Project Manager: Brennan

| Location | R | ~~2647~~ N | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2043 | 2047 | 2046 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0804 | 0807 | 0829 | | | |
| Stop Time | 1426 | 1432 | 1432 | | | |
| Run Time (Minutes) | 378 | 386 | 363 | | | |
| Minimum Concentration (ug/m3) | 10.9 | 4.4 | 8.0 ~~21.3~~ | | | |
| Maximum Concentration (ug/m3) | 84.0 | 2555.1 | 125.8 | | | |
| Average Concentration (TWA) (ug/m3) | 25.4 | 30.1 | 21.3 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Brennan

U.S. EPA: Norrell

Date: 1/1/02

RST Site Project Manager: Brennan

| Location | 2 | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 3047 | 2646 | 2613 | | | |
| Flow Rate (Liters / Minute) | 2 l/m | 2.1 | 2.5 | | | |
| Start Time | 0755 | 0755 | 0821 | | | |
| Stop Time | 1424 | 1426 | 1428 | | | |
| Run Time (Minutes) | 386 | 386 | 367 | | | |
| Minimum Concentration (ug/m3) | 0.3 | 0.1 | 8.1 | | | |
| Maximum Concentration (ug/m3) | 84.6 | 96.0 | 38.0 | | | |
| Average Concentration (TWA) (ug/m3) | 16.8 | 16.3 | 15.4 | | | |

Early

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/31/01 RST: T. Kirk

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 0804 | * | * | * | 21.0 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| L | 0807 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| M1 | 0826 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| N | 0829 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I | 0837 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Q | 0844 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| F | 0852 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| A | 0901 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| C | 0913 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| B | 0918 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| H | 0927 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I | 0934 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| D | 0944 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| K | 0951 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| U | 0959 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| V | 1005 | * | * | * | 21.2 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| S | 1015 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| P | 1022 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E | 1029 | * | * | * | 21.1 | * | * | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* PID, PID not functioning properly

Location A: Battery and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency** Late
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 12/31/01 RST: T. Kish

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1227 | * | 0.0 | 0.0 | 20.9 | 00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| M1 | 1236 | * | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| N | 1232 | * | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| T | 1227 | * | 0.0 | 0.0 | 20.7 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Q | 1210 | * | 0.0 | 0.0 | 20.6 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| F | 1244 | * | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| A | 1252 | * | 0.2 | 0.0 | 20.5 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| C | 1256 | * | 0.0 | 0.0 | 20.4 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| B | 1301 | * | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| H | 1311 | * | 0.0 | 0.0 | 20.3 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| I | 1314 | * | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| D | 1330 | * | 0.0 | 0.0 | 20.2 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| K | 1336 | * | 0.0 | 0.0 | 20.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| L1 | 13410 | * | 0.1 | 0.0 | 20.1 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| V | 1346 | * | 0.0 | 0.0 | 20.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| S | 1351 | * | 0.1 | 0.0 | 20.2 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| P | 1356 | * | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| E | 1401 | * | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Δ |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FID NOT FUNCTIONING PROPERLY
Δ BATTERY DIED ON PUMP METER 12V4

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 11/22 (EARLY) RST: S. GONYAN

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~E~~ | ~~0525~~ | | ~~ND~~ | | ~~20.9~~ | | | | | | | | |
| L | 0802 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0815 | N/A | ND | N/A | 20.9 | ND | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N | 0821 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0842 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0918 | N/A | ND | ND | 20.9 | 5 | ND | ND | ND | ND | ND | ND | ND |
| F | 0959 | N/A | 0.1 | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| ~~A~~ | 0910 | N/A | 0.1 | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 0916 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 0923 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0942 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 0956 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0956 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| K | 1005 | N/A | 0.1 | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 1017 | N/A | 0.1 | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1021 | N/A | 0.1 | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1032 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1042 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1043 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1054 | N/A | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |

NOTE: PID READ OUT LIGHT — CHECK HF, HCl — SOA

Location A: Barkley and West Broadway
Location B: Church and Dey
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## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, January 3, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:00 p.m. on 1/3**

**Air: Fixed Monitors in New York:**
**Asbestos** - EPA analyzed 41 samples taken in and around ground zero on December 24 and 25. In addition, EPA sampled for asbestos at two lower Manhattan locations from December 25 through 28. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,074, with 29 samples above the standard (27 of these were collected prior to September 30, one was collected on October 9 and the other on November 27).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Public School 154 (33 East 135th St., Bronx), Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from December 25 through 28. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on December 31 at the Staten Island Landfill. One station of three continued to show increased readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 2 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 2 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels

at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene exceeded the OSHA standard at the North Tower debris pile. All other three samples taken at EPA's Wash Tent (West St. and Murray), Austin Tobin Plaza and the South Tower debris pile showed no detectable levels of benzene.

**Direct Air Readings -** EPA did air monitoring in and around ground zero for a number of compounds on January 2. No significant readings were found.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, January 3, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 24, 1200 - 2359 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
Location E was not sampled.
Note: Low sample volume recorded.

NYC / ER (Dec 25, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 31) - Particulate Monitoring (Dataram)

Continued increased readings noted at one (P-1) of three stations (P-1, P-2, and P-3) based on daily average concentrations.
**Note**: There was no site work on January 1.

Ambient Air Sampling Locations

NYC / ER (Dec 25 - 28) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 28 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
**Note**: Monitoring at the Coast Guard station (Site 3) has ended.

NYC / ER (January 2) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 6.0 to 66.2 ug/m$^3$ with an average of 15.7 ug/m$^3$.
Station N values ranged from 4.4 to 36.4 ug/m$^3$ with an average of 12.1 ug/m$^3$.
Station R values ranged from 0.0 to 70.2 ug/m$^3$ with an average of 15.5 ug/m$^3$.

NYC / ER (Jan 2) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 2)

Nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/31/01**
**Sampling Date and Time: 12/24/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/24/01 | RST-02357 | L | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/24/01 | RST-02358 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02359 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02360 | J | 204 | Air | <7.0 | <0.013 | 0 | 0 | <8.00 | <0.0151 |
| 12/24/01 | RST-02362[a] | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02363 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02364 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02365 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02366 | C | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/24/01 | RST-02367 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02368 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02369 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02370 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02371 | U | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/24/01 | RST-02372 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02373 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02374 | V-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02375 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/24/01 | RST-02376 | P | 484 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0064 |
| 12/24/01 | - | E | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/24/01 | RST-02377 | W | 720 | Air | <7.0 | <0.004 | 3*** | 2*** | 44.44 | 0.0238 |
| 12/25/01 | FB122501 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/25/01 | TB122501 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
[a] - Sample No. RST-02361 was not used at this time

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/25/01 0001 to 1200**

**Data Validation Date: 12/31/01**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/25/01 | RST-02378 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02379 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02380 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02361[a] | J | 422 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 12/25/01 | RST-02381 | Q | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/25/01 | RST-02382 | F | 690 | Air | <7.0 | <0.004 | 4*** | 1*** | 40.00 | 0.0223 |
| 12/25/01 | RST-02383 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02384 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02385 | C | 709 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02386 | H | 670 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/25/01 | RST-02387 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02388 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02389 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02390 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02391 | V | 684 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/25/01 | RST-02392 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02393 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02394 | P | 408 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0075 |
| 12/25/01 | RST-02395 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02396 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/25/01 | RST-02397 | W | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/25/01 | FB122501 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/25/01 | TB122501 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
[a] - Sample Number out of sequence

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-25-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/25/01 1200 to 2400**

**Data Validation Date: 01/01/2001**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/25/01 | 7093-18-0089 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/25/01 | 7093-19-0089 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/25/01 | - | Coast Guard | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/25/01 | 7093-15-0087 | Manhattan IS #143 | 1406 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 12/25/01 | 7094-09-0078 | Bronx PS #154 | 1196*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 12/25/01 | 7096-12-0083 | Queens PS #199 | 1078*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 12/25/01 | 7095-98-0083 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/25/01 | 7097-18-0080 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/26/01 1200 to 2400**

**Data Validation Date: 12/31/2001**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/26/01 | 7093-18-0090 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/26/01 | 7093-19-0090 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/26/01 | - | Coast Guard | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/26/01 | 7093-15-0088 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/26/01 | 7094-09-0079 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/26/01 | 7096-12-0084 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/26/01 | 7095-98-0084 | Brooklyn PS #274 | 1076*** | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 12/26/01 | 7097-18-0081 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/27/01 1200 to 2400**

**Data Validation Date: 12/31/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 12/27/01 | 7093-18-0091 | Park Row | 1338 | Air | <7.0 | <0.002 | 1**** | 0 | 16 | 0.0046 |
| 12/27/01 | 7093-19-0091 | Chambers Street | 1144*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 12/27/01 | 7093-15-0089 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/27/01 | 7094-09-0080 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/27/01 | 7096-12-0085 | Queens PS #199 | 1070*** | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 12/27/01 | 7095-98-0085 | Brooklyn PS #274 | 1190*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 12/27/01 | 7097-18-0082 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/28/01 1200 to 2400**

**Data Validation Date: 12/31/2001**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 12/28/01 | 7093-18-0092 | Park Row | 1388 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 12/28/01 | 7093-19-0092 | Chambers Street | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 12/28/01 | 7093-15-0090 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/28/01 | 7094-09-0081 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/28/01 | 7096-12-0086 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/28/01 | 7095-98-0086 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/28/01 | 7097-18-0083 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**December 31, 2001**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 2226 | 1 | 18 | 04:30:00 | 10 | 00:15:00 | 100 | 0.0 | 24.6 | 246.5 | 2347.0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 24 | 06:00:00 | 10 | 00:15:00 | 100 | 0.0 | 6.1 | 89.2 | 1988.6 |
| 3 | -74.198685 | 40.570054 | 2011 | 1 | 24 | 06:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 39.2 | 416.1 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/02/02**

| File Name | NYC649 | NYC650 | NYC651 | NYC652 | NYC655 | NYC653 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07297 | A07298 | A07299 | A07300 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 100 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 50 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | **610** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **210** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **59** | RL |
| Acetone | RL | RL | RL | RL | **4100** | **31** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **110** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **540** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **58** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **1200** | RL |
| Heptane | RL | RL | RL | RL | RL | **25** |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **130** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **300** | **46** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **170** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **79** | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J. BRENNAN U.S. EPA: Norrell

Date: 1.2.02 RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 3543 | 2046 | 2647 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0821 | 0824 | 0844 | | | |
| Stop Time | 1443 | 1445 | 1447 | | | |
| Run Time (Minutes) | 06:21:30 | 06:20:00 | 06:02:30 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 6.0 | 4.4 | | | |
| Maximum Concentration (ug/m3) | 70.2 | 66.2 | 36.4 | | | |
| Average Concentration (TWA) (ug/m3) | 15.5 | 15.7 | 12.1 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/2/02 (Early) RST: J. Brennan team

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0830 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0836 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0844 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0850 | * | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| G | 0905 | * | ND | ND | ND | 2 | ND | ND | ND | ND | ND | ND | ND |
| F | 0915 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0930 | | ND | ND | ND | 7 | ND | ND | ND | ND | ND | ND | ND |
| C | 0935 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0940 | | ND | ND | ND | 5 | ND | ND | ND | ND | ND | ND | ND |
| H | 0955 | | ND | ND | ND | 5 | ND | ND | ND | ND | ND | ND | ND |
| E | 1000 | | ND | ND | ND | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1015 | | 0.1 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1020 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 1030 | | ND | ND | ND | 2 | ND | ND | ND | ND | ND | ND | ND |
| U | 1035 | | ND | ND | ND | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1040 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1050 | | ND | ND | ND | 5 | ND | ND | ND | ND | ND | ND | ND |
| P | 1055 | | 0.1 | ND | ND | 4 | ND | ND | ND | ND | ND | ND | ND |
| E | 1105 | ↓ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

* FID would not light

$COCl_2$, HF, HCl - SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 9/12/02 (LAH) RST: BROWN

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1235 | — | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1239 | — | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | 1.1 | ND |
| N | 1243 | — | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 1247 | — | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1251 | — | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| F | 1255 | — | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| A | 1300 | — | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| C | 1306 | — | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 1309 | — | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| H | 1314 | — | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| E | 1324 | — | ND | ND | 21.2 | 10 | ND | ND | ND | ND | ND | ND | ND |
| D | 1335 | — | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 1340 | — | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 1346 | — | 0.1 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1349 | — | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | * |
| V | 1356 | — | 0.1 | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | |
| S | 1405 | — | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | |
| P | 1408 | — | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | |
| R | 1413 | — | ND | ND | 21.2 | 7 | ND | ND | ND | ND | ND | ND | |

NOTE: FID would not light

$COCl_2$, HF, HCl - GPM

* Battery Dead

Location A: Battery and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 11/1/02 - (Rain) RST: BAPHIAN

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1229 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1234 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1237 | N/A | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 1244 | N/A | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 1246 | N/A | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 1255 | N/A | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1255 | N/A | 0.2 | ND | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 1302 | N/A | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 1302 | N/A | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1321 | N/A | 0.2 | ND | 20.6 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 1325 | N/A | ND | ND | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1330 | N/A | ND | ND | 20.5 | 3 | ND | ND | ND | ND | ND | ND | ND |
| K | 1342 | N/A | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | * |
| ~~*~~ | ~~1345~~ | ~~N/A~~ | ~~0.3~~ | ~~ND~~ | ~~20.5~~ | ~~4~~ | ~~ND~~ | ~~ND~~ | ~~ND~~ | ~~ND~~ | ~~ND~~ | ~~ND~~ | |
| T | 1345 | N/A | 0.3 | ND | 20.5 | 4 | ND | ND | ND | ND | ND | ND | * |
| U | 1347 | N/A | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | * |
| V | 1351 | N/A | ND | ND | 20.6 | 1 | ND | ND | ND | ND | ND | ND | * |
| S | 1357 | N/A | 0.1 | ND | 20.6 | 3 | ND | ND | ND | ND | ND | ND | * |
| P | 1402 | N/A | 0.1 | ND | 20.7 | 1 | ND | ND | ND | ND | ND | ND | * |
| E | 1403 | N/A | 0.1 | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | * |
| | | | | | | | | | | | | | |

* Battery DEAD

NOTE: PID WOULD NOT LIGHT

COCl2, HCl, HF - SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, January 4, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:00 p.m. on 1/4**

**Air: Fixed Monitors in New York:**
**Asbestos** - EPA analyzed 117 samples taken in and around ground zero from December 26 through 29. All but one sample showed results less than.70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. One sample taken on December 27 showed 204.44 structures per square millimeter. In light of this sample reading, EPA is increasing surveillance of the ground zero work area to ensure all dust suppression measure are taken. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,191, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-three air samples collected on December 29 and 30 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 2 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 3 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 2 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene did not exceed the OSHA standard in any samples. Samples taken at EPA's Wash Tent (West St. and Murray) and Austin Tobin Plaza showed no

detectable levels of benzene.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 3. No significant readings were found.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, January 4, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 26, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.
Location P was not sampled.

NYC / ER (Dec 27, 0001 - 1200 hrs)

1 of 21 samples analyzed was above the TEM AHERA standard.
Exceedance of TEM AHERA standard occurred at Location D (204.44 S/mm$^2$).
22 of the 23 structures identified in this sample were less than 5 microns in length.
Note: A field duplicate (co-located) sample for Location D did not detect any structures (< 8.89 S/mm$^2$).
Location P was not sampled.

NYC / ER (Dec 27, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 28, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Dec 28, 1200 - 2359 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
2 locations (Locations T and T-duplicate) were not sampled since access to those locations was not available.

NYC / ER (Dec 29, 0001 - 1200 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 sample (Location T) was not submitted at this time since access to that location was not available.
1 sample (Location V) was not collected due to equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 29, 0815 - 2136 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 location (Location O-18) was not sampled since access to that location was not available.

Fresh Kills (Dec 30, 0746 - 2132 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
4 samples (Locations P-1, W-12A, W-12B, and B-14) were not analyzed due to overloading of particulates.
Note: Low sample volume recorded.

Fresh Kills (Jan 2) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-3, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (January 3) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 7 hours.
Station L values ranged from 0.0 to 172.5 ug/$m^3$ with an average of 19.5 ug/$m^3$.
Station N values ranged from 7.8 to 100.0 ug/$m^3$ with an average of 15.6 ug/$m^3$.
Station R values ranged from 7.6 to 132.5 ug/$m^3$ with an average of 18.4 ug/$m^3$.

NYC / ER (Jan 3) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 2 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Jan 3)

Nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/26/01 1200 to 2359**

**Data Validation Date: 01/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 12/26/01 | RST-02443 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02444 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02445 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02446 | J | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02447 | Q | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02448 | F | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02449 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02450 | C | 673 | Air | 15.29 | 0.009 | 0 | 0 | <8.00 | <0.0046 |
| 12/26/01 | RST-02451 | C-Duplicate | 720 | Air | 12.10 | 0.006 | 2*** | 0 | 17.78 | 0.0095 |
| 12/26/01 | RST-02452 | B | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02453 | H | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02454 | H-Duplicate | 720 | Air | 10.19 | 0.005 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02455 | I | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02456 | I-Duplicate | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02457 | D | 720 | Air | 14.65 | 0.008 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02458 | K | 720 | Air | 8.92 | 0.005 | 1*** | 0 | 8.89 | 0.0048 |
| 12/26/01 | RST-02459 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02460 | U | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02461 | V | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02462 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | - | P | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/26/01 | RST-02463 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/26/01 | RST-02464 | W | 720 | Air | 28.66 | 0.015 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | FB122701 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/27/01 | TB122701 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/02/2002**
**Sampling Date and Time: 12/27/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 12/27/01 | RST-02465 | L | 597 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 12/27/01 | RST-02466 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02467 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02468 | J | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02469 | Q | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/27/01 | RST-02470 | F | 720 | Air | 7.64 | 0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 12/27/01 | RST-02471 | A | 716 | Air | 9.55 | 0.005 | 0 | 1*** | 8.89 | 0.0048 |
| 12/27/01 | RST-02472 | C | 720 | Air | 14.01 | 0.007 | 1*** | 0 | 8.89 | 0.0048 |
| 12/27/01 | RST-02473 | B | 720 | Air | 8.92 | 0.005 | 2*** | 0 | 17.78 | 0.0095 |
| 12/27/01 | RST-02474 | B-Duplicate | 700 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0049 |
| 12/27/01 | RST-02475 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02476 | I | 693 | Air | 10.19 | 0.006 | 0 | 0 | <8.89 | <0.0049 |
| 12/27/01 | RST-02477 | D | 720 | Air | <7.0 | <0.004 | 22*** | 1*** | 204.44 | 0.1093 |
| 12/27/01 | RST-02478 | D-Duplicate | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02479 | K | 694 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/27/01 | RST-02480 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02481 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02482 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02483 | S | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | - | P | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/27/01 | RST-02484 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02485 | W | 670 | Air | 8.92 | 0.005 | 0 | 0 | <8.00 | <0.0046 |
| 12/27/01 | FB122701 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/27/01 | TB122701 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-27-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 12/31/01**
**Sampling Date and Time: 12/27/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/27/01 | RST-02486 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02487 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02488 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02489 | J | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/27/01 | RST-02490 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02491 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02492 | F | 720 | Air | <7.0 | <0.004 | 1*** | 1*** | 17.78 | 0.0095 |
| 12/27/01 | RST-02493 | A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02494 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02495 | C-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02496 | B | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/27/01 | RST-02497 | H | 707 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02498 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02499 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02500 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02501 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02502 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02503 | V | 702 | Air | <7.0 | <0.004 | 2*** | 1*** | 26.67 | 0.0146 |
| 12/27/01 | RST-02504 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02505 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02506 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/27/01 | RST-02507 | W | 658 | Air | 11.46 | 0.007 | 0 | 0 | <8.00 | <0.0047 |
| 12/28/01 | FB122801 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/28/01 | TB122801 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-27-01-prn.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/28/01 0001 to 1200**

**Data Validation Date: 01/02/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/28/01 | RST-02508 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02509 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02510 | N | 590 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 12/28/01 | RST-02511 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02512 | Q | 645 | Air | 7.64 | 0.005 | 1*** | 0 | 8.00 | 0.0048 |
| 12/28/01 | RST-02513 | F | 306 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0101 |
| 12/28/01 | RST-02514 | A | 644 | Air | 9.55 | 0.006 | 0 | 0 | <8.00 | <0.0048 |
| 12/28/01 | RST-02515 | A-Duplicate | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02516 | C | 720 | Air | 11.46 | 0.006 | 1*** | 0 | 8.89 | 0.0048 |
| 12/28/01 | RST-02517 | B | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/28/01 | RST-02518 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02519 | I | 641 | Air | 10.19 | 0.006 | 0 | 0 | <8.00 | <0.0048 |
| 12/28/01 | RST-02520 | D | 426 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0072 |
| 12/28/01 | RST-02521 | K | 669 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/28/01 | RST-02522 | K-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02523 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02524 | U | 697 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 12/28/01 | RST-02525 | V | 692 | Air | 7.64 | 0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/28/01 | RST-02526 | S | 653 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/28/01 | RST-02527 | P | 650 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/28/01 | RST-02528 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02529 | W | 575 | Air | 8.28 | 0.0055 | 0 | 0 | <8.00 | <0.0054 |
| 12/28/01 | FB122801 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/28/01 | TB122801 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
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U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-28-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** Data Validation Date: 01/03/2002
**Sampling Date and Time: 12/28/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/28/01 | RST-02530 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02531 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 12/28/01 | RST-02532 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02533 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02534 | Q | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02535 | F | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 12/28/01 | RST-02536 | A | 720 | Air | 13.38 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02537 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02538 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02539 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02540 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02541 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02542 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | - | T | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/28/01 | - | T-Duplicate | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/28/01 | RST-02543 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02544 | U-Duplicate | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02545 | V | 654 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/28/01 | RST-02546 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02547 | P | 651 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/28/01 | RST-02548 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | RST-02549 | W | 720 | Air | 7.01 | 0.004 | 3*** | 0 | 26.67 | 0.0143 |
| 12/29/01 | FB122901 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/29/01 | TB122901 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
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U: Pier 6 Exit 2
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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/29/01 0001 to 1200**

**Data Validation Date: 01/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/29/01 | RST-02550 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02551 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02552 | N | 712 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02553 | J | 692 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0045 |
| 12/29/01 | RST-02554 | Q | 716 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02555 | F | 667 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/29/01 | RST-02556 | A | 679 | Air | 11.46 | 0.0065 | 0 | 0 | <8.00 | <0.0045 |
| 12/29/01 | RST-02557 | C | 720 | Air | 7.64 | 0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/29/01 | RST-02558 | B | 696 | Air | <7.0 | <0.004 | 1*** | 1*** | 16.00 | 0.0089 |
| 12/29/01 | RST-02559 | H | 714 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02560 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02561 | D | 672 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/29/01 | RST-02562 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | - | T | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 12/29/01 | RST-02563 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | - | V | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] |
| 12/29/01 | RST-02564 | V-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02565 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02566 | S-Duplicate | 703 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 12/29/01 | RST-02567 | P | 637 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 12/29/01 | RST-02568 | E | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/29/01 | RST-02569 | W | 439 | Air | <7.0 | <0.006 | 1*** | 0 | 8.00 | 0.0070 |
| 12/29/01 | FB122901 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/29/01 | TB122901 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
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*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
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NS[1] - Sample not submitted at this time due to no access to station location
NS[2] - Sample not submitted due to no sample volume

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/29/01 0815 to 2136**

**Data Validation Date: 1/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/29/01 | LF01856 | P-1 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/29/01 | LF01857 | P-2 | 555 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0055 |
| 12/29/01 | LF01858 | P-3 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 12/29/01 | LF01859 | P-4 | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/29/01 | LF01860 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01861 | P-6 | 585 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0054 |
| 12/29/01 | LF01862 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01863 | P-8 | 720 | Air | 17.83 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01864 | W-11 | 720 | Air | 20.38 | 0.011 | 3*** | 0 | 26.25 | 0.0140 |
| 12/29/01 | LF01865 | W-12A | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01866 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01867 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01868 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01869 | T-15 | 720 | Air | 22.93 | 0.012 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01870 | T-16 | 720 | Air | 10.19 | 0.005 | 2*** | 0 | 17.50 | 0.0094 |
| 12/29/01 | LF01871 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01872 | O-18 | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/29/01 | LF01873 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01874 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/29/01 | LF01875 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/29/01 | LF01876 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-29-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/30/01 0746 to 2132**

**Data Validation Date: 01/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/30/01 | LF01877 | P-1 | 699 | Air | <7.0 | <0.004 | NA [1] | NA [1] | NA [1] | NA [1] |
| 12/30/01 | LF01878 | P-2 | 89 [a] | Air | <7.0 | <0.030 | 0 | 0 | <7.87 | <0.0341 |
| 12/30/01 | LF01879 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01880 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01881 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01882 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01883 | P-7 | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/30/01 | LF01884 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01885 | W-11 | 720 | Air | 20.38 | 0.011 | 1*** | 1**** | 17.50 | 0.0094 |
| 12/30/01 | LF01886 | W-12A | 720 | Air | NA [1] | NA [1] | NA [1] | NA [1] | NA [1] | NA [1] |
| 12/30/01 | LF01887 | W-12B | 720 | Air | <7.0 | <0.004 | NA [1] | NA [1] | NA [1] | NA [1] |
| 12/30/01 | LF01888 | B-13 | 694 | Air | NA [1] | NA [1] | 1*** | 0 | 8.75 | 0.0049 |
| 12/30/01 | LF01889 | B-14 | 720 | Air | 10.19 | 0.005 | NA [1] | NA [1] | NA [1] | NA [1] |
| 12/30/01 | LF01890 | T-15 | 720 | Air | 7.64 | 0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/30/01 | LF01891 | T-16 | 720 | Air | <7.0 | <0.004 | 2*** | 1*** | 26.25 | 0.0140 |
| 12/30/01 | LF01892 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01893 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/30/01 | LF01894 | O-19 | 360 | Air | <7.0 | <0.007 | 0 | 0 | <7.87 | <0.0084 |
| 12/30/01 | LF01895 | MPHS-20 | 678 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0050 |
| 12/30/01 | LF01896 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |
| 12/30/01 | LF01897 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted
[a] - Extremely low sample volume collected

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-30-01-am.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 2, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 3 | -74.198685 | 40.570054 | 2295 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 52.4 | 3018.7 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 44 | 11:00:00 | 10 | 00:15:00 | 100 | 0.0 | 3.2 | 15.1 | 355.4 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 43 | 10:45:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 59.0 | 1935.3 |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: S. Hoffman U.S. EPA: Norrell

Date: 1/3/02 RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2643 | 2646 | 2647 | | | |
| Flow Rate (Liters / Minute) | ~~2~~ 2 L/m | 2 L/m | 2 L/m | | | |
| Start Time | 0811 | 0814 | 0832 | | | |
| Stop Time | 1505 | 1502 | 1458 | | | |
| Run Time (Minutes) | ~~414~~ 414 (min) | ~~408~~ 408 (min) | 386 | | | |
| Minimum Concentration (ug/m3) | 7.6 | 0.0 | 7.8 | | | |
| Maximum Concentration (ug/m3) | 132.5 | 172.5 | 100.0 | | | |
| Average Concentration (TWA) (ug/m3) | 18.4 | 19.5 | 15.6 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 9/09/01 RST: D Hoffman

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0822 | * | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0832 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0837 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| T | 0842 | | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0847 | | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| F | 0853 | | ND | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| A | 0903 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| B | 0913 | | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| C | 0919 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| M | 0926 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 0946 | | ND | ND | 21.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| D | 0953 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| K | 1002 | | ND | ND | 21.3 | 5 | ND | ND | ND | ND | ND | ND | ND |
| T | 1023 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 1028 | | ND | ND | 21 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1034 | | ND | ND | 21.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1043 | | ND | ND | 21.5 | 6 | ND | ND | ND | ND | ND | ND | ND |
| P | 1048 | | ND | ND | 21.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1052 | | ND | ND | 21.5 | ND | ND | ND | ND | ND | ND | ND | ND |

* FID no signal.

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 5 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/3/02 RST: B. Hoffmen

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1254 | * | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1257 | | ND | ND | 21.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| N | 1302 | | ND | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 1313 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1316 | | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| F | 1322 | | ND | ND | 21.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1324 | | ND | ND | 21.5 | 10 | ND | ND | ND | ND | ND | ND | ND |
| B | 1333 | | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| C | 1335 | | ND | ND | 21.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 1351 | | ND | ND | 21 | 1 | ND | ND | ND | ND | ND | ND | ** |
| I | 1354 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | |
| D | 1407 | | ND | ND | 21.7 | 7 | ND | ND | ND | ND | ND | ND | |
| K | 1411 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | |
| I | 1425 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | |
| M | 1427 | | ND | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | |
| V | 1429 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | |
| S | 1436 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | |
| P | 1439 | | ND | 2 | 21.8 | 3 | ND | ND | ND | ND | ND | ND | |
| E | 1442 | | ND | .3 | 21.9 | 4 | ND | ND | ND | ND | ND | ND | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FID no flame detected

** $COCl_2$ Single point monitor battery dead

Location A: Barclay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/03/02**

| File Name | NYC656 | NYC659 | NYC660 | NYC661 | NYC665 | NYC662 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07301 | A07302 | A07303 | A07304 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 150 | 39 |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | 53 |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | 48 |
| Acetone | RL | RL | 72 | 30 | 110 | 1300 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | 75 |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 250 | 67 |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | 39 |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 46 | 69 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | 28 |
| m&p-Xylenes | RL | RL | RL | RL | RL | 51 |
| o-Xylene | RL | RL | RL | RL | RL | 24 |
| Styrene | RL | RL | RL | RL | 50 | 66 |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday - Monday, January 5 -7, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on 1/7**

**Air: Fixed Monitors in New York:**
**Asbestos** - EPA analyzed 118 samples taken in and around ground zero from December 29 through January 1. In addition, EPA sampled for asbestos at two lower Manhattan locations from December 29 through January 2. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,319, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Public School 154 (33 East 135th St., Bronx), Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from December 29 through January 2. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-four air samples collected on December 31 and January 2 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 3-5 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 4, 5 and 6 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 4, 5 and 6 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day. Benzene did not exceed the OSHA standard in any samples on Jan. 4, however samples taken at the North Tower debris pile on Jan. 5 and 6 exceeded the standard. All samples taken at EPA's Wash Tent (West St. and Murray), Austin Tobin Plaza and the South Tower debris pile showed no detectable levels of benzene.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 4, 5 and 6. Several readings noted during the afternoon of Jan. 4 showed carbon monoxide levels at or above the National Ambient Air Quality Standard (8-hour average) of 9 ppm. Low levels of carbon monoxide were also found on January 6. No significant readings were found on January 5.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, January 7, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Dec 29, 1200 - 2359 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations D and L-duplicate) were not collected due to equipment malfunctions.
1 location (Location T) was not sampled since access to that location was not available.

NYC / ER (Dec 30, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access to that location was not available.
Note: Low sample volume recorded.

NYC / ER (Dec 30, 1200 - 2359 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 sample (Location B) was not collected due to equipment malfunction.
1 location (Location T) was not sampled since access to that location was not available.

NYC / ER (Dec 31, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location T) was not sampled since access to that location was not available.
Note: Low sample volume recorded.

NYC / ER (Dec 31, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
4 samples (Locations I, U, P, and T) were not collected due to equipment malfunctions.

NYC / ER (Jan 1, 2002, 0001 - 1200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations B and V) were not collected due to equipment malfunctions.
1 location (Location T) was not sampled since access to that location was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Dec 31, 0745 - 2135 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 location (Location P-1) was not analyzed due to overloading of particulates.
Note: Low sample volume recorded

Fresh Kills (Jan 1, 2002)

No monitoring conducted.

Fresh Kills (Jan 2, 0750 - 2156 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-13) was not collected due to equipment malfunction.
2 locations (Locations W-11 and W-12A) were not analyzed due to overloading of particulates.

Fresh Kills (Jan 2) - Particulate Monitoring (Dataram)

**Resubmittal**: Previously reported readings at station P-3. Readings were actually from station P-2. All other data remains the same.

Fresh Kills (Jan 3) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Jan 4) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Jan 5) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Dec 29 - Jan 2, 2002) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 35 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 4) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6½ hours.
Station L values ranged from 0.2 to 203.4 ug/m$^3$ with an average of 14.3 ug/m$^3$.
Station N values ranged from 0.0 to 77.6 ug/m$^3$ with an average of 10.6 ug/m$^3$.
Station R values ranged from 0.1 to 85.4 ug/m$^3$ with an average of 13.3 ug/m$^3$.

NYC / ER (Jan 5) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 11.6 to 155.4 ug/m$^3$ with an average of 28.1 ug/m$^3$.
Station N values ranged from 19.8 to 61.3 ug/m$^3$ with an average of 24.6 ug/m$^3$.
Station R values ranged from 3.2 to 59.1 ug/m$^3$ with an average of 26.1 ug/m$^3$.

NYC / ER (Jan 6) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 29.4 to 190.0 ug/m$^3$ with an average of 46.7 ug/m$^3$.
Station N values ranged from 32.1 to 176.2 ug/m$^3$ with an average of 45.2 ug/m$^3$.
Station R values ranged from 28.7 to 128.4 ug/m$^3$ with an average of 46.4 ug/m$^3$.

NYC / ER (Jan 4) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 5) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).

NYC / ER (Jan 6) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 4)

Several readings noted during the afternoon at or above the carbon monxide NAAQS (8-hour average) of 9 ppm.
Otherwise, nothing of significance reported.

NYC / ER (Jan 5)

Nothing of significance reported.

NYC / ER (Jan 6)

Low levels of carbon monoxide noted at nearly all stations during both monitoring periods.
Otherwise, nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/29/01 1200 to 2359**

**Data Validation Date: 01/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 12/29/01 | RST-02570 | L | 669 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/29/01 | - | L-Duplicate | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/29/01 | RST-02571 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02572 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02573 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02574 | J | 412 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0075 |
| 12/29/01 | RST-02575 | Q | 720 | Air | <7.0 | <0.004 | 0 | 2*** | 17.78 | 0.0095 |
| 12/29/01 | RST-02576 | F | 349 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0088 |
| 12/29/01 | RST-02577 | A | 613 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0050 |
| 12/29/01 | RST-02578 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02579 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02580 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02581 | I | 604 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0051 |
| 12/29/01 | - | D | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/29/01 | RST-02582 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/29/01 | RST-02583 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02584 | V | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/29/01 | RST-02585 | S | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/29/01 | RST-02586 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02587 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | RST-02588 | W | 720 | Air | 7.01 | 0.004 | 5*** | 0 | 44.44 | 0.0238 |
| 12/30/01 | FB123001 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 12/30/01 | TB123001 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-12-29-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/30/01 0001 to 1200**

**Data Validation Date: 01/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/30/01 | RST-02589 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02590 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02591 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02592 | N | 601 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0051 |
| 12/30/01 | RST-02593 | J | 595 | Air | <7.0 | <0.005 | 1*** | 0 | 8.00 | 0.0052 |
| 12/30/01 | RST-02594 | J-Duplicate | 685 | Air | 7.01 | 0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/30/01 | RST-02595 | Q | 665 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/30/01 | RST-02596 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02597 | A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02598 | C | 585 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0053 |
| 12/30/01 | RST-02599 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02600 | H | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 12/30/01 | RST-02601 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02602 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02603 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/30/01 | RST-02604 | U | 73**** | Air | <7.0 | <0.037 | 0 | 0 | <8.89 | <0.0469 |
| 12/30/01 | RST-02605 | V | 601 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0051 |
| 12/30/01 | RST-02606 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02607 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02608 | E | 628 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 12/30/01 | RST-02609 | W | 720 | Air | 10.19 | 0.005 | 1*** | 0 | 8.89 | 0.0048 |
| 12/30/01 | FB123001 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/30/01 | TB123001 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Reclor & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 12/31/01 0745 to 2135**

**Data Validation Date: 01/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/31/01 | LF01898 | P-1 | 720 | Air | <7.0 | <0.004 | NA [1] | NA [1] | NA [1] | NA [1] |
| 12/31/01 | LF01899 | P-2 | 58 [a] | Air | <7.0 | <0.047 | 0 | 0 | <7.87 | <0.0523 |
| 12/31/01 | LF01900 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01901 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01902 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01903 | P-6 | 547 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0062 |
| 12/31/01 | LF01904 | P-7 | 648 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0047 |
| 12/31/01 | LF01905 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01906 | W-11 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01907 | W-12A | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 12/31/01 | LF01908 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01909 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01910 | B-14 | 720 | Air | <7.0 | <0.004 | 4*** | 0 | 35.00 | 0.0187 |
| 12/31/01 | LF01911 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01912 | T-16 | 720 | Air | <7.0 | <0.004 | 3*** | 0 | 26.25 | 0.0140 |
| 12/31/01 | LF01913 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01914 | O-18 | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 12/31/01 | LF01915 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 12/31/01 | LF01916 | MPHS-20 | 720 | Air | 15.29 | 0.008 | 5*** | 1**** | 52.49 | 0.0281 |
| 12/31/01 | LF01917 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA [2] | NA [2] |
| 12/31/01 | LF01918 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA [2] | NA [2] |

**Key:**

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** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Amosite
NA [1] - Not analyzed due to overloading of particulates
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n/a - Not applicable
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-12-31-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/04/2002**
**Sampling Date and Time: 12/30/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 12/30/01 | RST-02610 | L | 680 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0045 |
| 12/30/01 | RST-02611 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02612 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02613 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02614 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02615 | F | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/30/01 | RST-02616 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02617 | A-Duplicate | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02618 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | - | B | NS | NS | NS | NS | NS | NS | NS | NS |
| 12/30/01 | RST-02619 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02620 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02621 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02622 | O | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02623 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02624 | U | 320 | Air | <7.0 | <0.008 | 0 | 0 | <8.89 | <0.0107 |
| 12/30/01 | RST-02625 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02626 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02627 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02628 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/30/01 | RST-02629 | W | 720 | Air | <7.0 | <0.004 | 1*** | 2*** | 26.67 | 0.0143 |
| 12/31/01 | FB123101 | Field Blank | 0 | Air | <7.0 | n/a | NA(3) | NA(2) | NA(2) | NA(2) |
| 12/31/01 | TB123101 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

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**** Extremely low sample volume collected

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-12-30-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/31/01 0001 to 1200**

**Data Validation Date: 01/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 12/31/01 | RST-02630 | L | 681 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/31/01 | RST-02631 | M1 | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 12/31/01 | RST-02632 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02633 | J | 621 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0050 |
| 12/31/01 | RST-02634 | Q | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02635 | F | 595 | Air | <7.0 | <0.005 | 1*** | 1*** | 16.00 | 0.0104 |
| 12/31/01 | RST-02636 | A | 705 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0049 |
| 12/31/01 | RST-02637 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02638 | C-Duplicate | 663 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02639 | B | 624 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0049 |
| 12/31/01 | RST-02640 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02641 | H-Duplicate | 676 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02642 | I | 662 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 12/31/01 | RST-02643 | D | 692 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0045 |
| 12/31/01 | RST-02644 | K | 676 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02645 | U | 634 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 12/31/01 | RST-02646 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02647 | S | 508 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0061 |
| 12/31/01 | RST-02648 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02649 | E | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02650 | W | 204 | Air | <7.0 | <0.013 | 0 | 0 | <8.00 | <0.0151 |
| 12/31/01 | FB123101 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 12/31/01 | TB123101 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-12-31-01-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/04/02**
**Sampling Date and Time: 12/31/01 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 12/31/01 | RST-02651 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02652 | L-Duplicate | 673 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 12/31/01 | RST-02653 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02654 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02655 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02656 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02657 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02658 | F | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 12/31/01 | RST-02659 | A | 720 | Air | 8.92 | 0.005 | 1*** | 2*** | 26.67 | 0.0143 |
| 12/31/01 | RST-02660 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02661 | B | 346 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0089 |
| 12/31/01 | RST-02662 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | - | I | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/31/01 | RST-02663 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02664 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | - | U | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/31/01 | RST-02665 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | RST-02666 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | - | P | NS | Air | NS | NS | NS | NS | NS | NS |
| 12/31/01 | RST-02667 | E | 638 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 12/31/01 | RST-02668 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/31/01 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/01/02 | FB010102 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/01/02 | TB010102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-12-31-01-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/04/02**
**Sampling Date and Time: 01/01/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/01/02 | RST-02669 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02670 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02671 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02672 | N-Duplicate | 676 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/01/02 | RST-02673 | J | 600 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0051 |
| 01/01/02 | RST-02674 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02675 | Q-Duplicate | 533 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 01/01/02 | RST-02676 | F | 578 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 01/01/02 | RST-02677 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02678 | C | 676 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/01/02 | - | B | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/01/02 | RST-02679 | H | 575 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/01/02 | RST-02680 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02681 | D | 578 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 01/01/02 | RST-02682 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02683 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | - | V | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/01/02 | RST-02684 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02685 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/01/02 | RST-02686 | E | 624 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 01/01/02 | RST-02687 | W | 569 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/01/02 | FB010102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/01/02 | TB010102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
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R: TAGA Bus Location
S: Rector & South End
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U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-01-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/02/02 0750 to 2156**

**Data Validation Date: 1/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/02/02 | LF01919 | P-1 | 661 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/02/02 | LF01920 | P-2 | 553 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0055 |
| 01/02/02 | LF01921 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01922 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01923 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01924 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01925 | P-7 | 707 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/02/02 | LF01926 | P-8 | 720 | Air | <7.0 | <0.004 | 4*** | 0 | 35.00 | 0.0187 |
| 01/02/02 | LF01927 | W-11 | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/02/02 | LF01928 | W-12A | 720 | Air | 17.83 | 0.010 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/02/02 | LF01929 | W-12B | 720 | Air | 15.29 | 0.008 | 3*** | 1*** | 35.00 | 0.0187 |
| 01/02/02 | LF01930 | B-13 | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/02/02 | LF01931 | B-14 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/02/02 | LF01932 | T-15 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01933 | T-16 | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 01/02/02 | LF01934 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01935 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01936 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/02/02 | LF01937 | MPHS-20 | 691 | Air | <7.0 | <0.004 | 3*** | 0 | 26.25 | 0.0146 |
| 01/02/02 | LF01938 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/02/02 | LF01939 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-02-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/29/01 1200 to 2400**

**Data Validation Date: 01/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 12/29/01 | 7093-18-0093 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/29/01 | 7093-19-0093 | Chambers Street | 1164*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 12/29/01 | 7093-15-0091 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/29/01 | 7094-09-0082 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/29/01 | 7096-12-0087 | Queens PS #199 | 1136*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 12/29/01 | 7095-98-0087 | Brooklyn PS #274 | 1244 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 12/29/01 | 7097-18-0084 | Staten Island PS #44 | 1386 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/30/01 1200 to 2400**

**Data Validation Date: 01/05/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 12/30/01 | 7093-18-0094 | Park Row | 1394 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 12/30/01 | 7093-19-0094 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/30/01 | 7093-15-0092 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/30/01 | 7094-09-0083 | Bronx PS #154 | 1428 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/30/01 | 7096-12-0088 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/30/01 | 7095-98-0088 | Brooklyn PS #274 | 1252 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 12/30/01 | 7097-18-0085 | Staten Island PS #44 | 1350 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 12/31/01 1200 to 2400**

**Data Validation Date: 01/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 12/31/01 | 7093-18-0095 | Park Row | 1186*** | Air | 9.55 | 0.003 | 0 | 0 | <13.33 | <0.0043 |
| 12/31/01 | 7093-19-0095 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/31/01 | 7093-15-0093 | Manhattan IS #143 | 790*** | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0043 |
| 12/31/01 | 7094-09-0084 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/31/01 | 7096-12-0089 | Queens PS #199 | 1026*** | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 12/31/01 | 7095-98-0089 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 12/31/01 | 7097-18-0086 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/01/02 1200 to 2400**

**Data Validation Date: 01/05/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/01/02 | 7093-18-0096 | Park Row | 1408 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/01/02 | 7093-19-0096 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/01/02 | 7093-15-0094 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/01/02 | 7094-09-0085 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/01/02 | 7096-12-0090 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/01/02 | 7095-98-0090 | Brooklyn PS #274 | 1422 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/01/02 | 7097-18-0087 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/02/02 1200 to 2400**

**Data Validation Date: 01/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 01/02/02 | 7093-18-0097 | Park Row | 1326 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/02/02 | 7093-19-0097 | Chambers Street | 1220 | Air | <7.0 | <0.002 | 1*** | 0 | 13.33 | 0.0042 |
| 01/02/02 | 7093-15-0095 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/02/02 | 7094-09-0086 | Bronx PS #154 | 1388 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/02/02 | 7096-12-0091 | Queens PS #199 | 858*** | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0045 |
| 01/02/02 | 7095-98-0091 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/02/02 | 7097-18-0088 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 5, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 39 | 09:45:00 | 10 | 00:15:00 | 0 | 0.0 | 8.2 | 55.5 | 872.7 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 38 | 09:30:00 | 10 | 00:15:00 | 100 | 0.0 | 9.3 | 27.0 | 169.9 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 38 | 09:30:00 | 10 | 00:15:00 | 100 | 0.0 | 10.2 | 26.2 | 338.6 |

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
January 3, 2002

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 18.7 | 1088.2 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 35 | 08:45:00 | 10 | 00:15:00 | 100 | 0.0 | 10.3 | 16.8 | 101.4 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 43 | 09:45:00 | 10 | 00:15:00 | 100 | 0.0 | 5.2 | 69.9 | 2003.4 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 4, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 43 | 10:45:00 | 10 | 00:15:00 | 100 | 0.0 | 1.7 | 44.4 | 1648.0 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 44 | 11:00:00 | 10 | 00:15:00 | 100 | 0.0 | 10.3 | 17.4 | 71.9 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 2.8 | 49.3 | 2757.9 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 2, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 0 | 1 | 45 | 11:15:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 52.4 | 3018.7 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 44 | 11:00:00 | 10 | 00:15:00 | 100 | 0.0 | 3.2 | 15.1 | 355.4 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 43 | 10:45:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 59.0 | 1935.3 |

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**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J. O. Adams

U.S. EPA: Norrell

Date: 1/6/02

RST Site Project Manager: Brennan

| Location | R | L | N | ? | ? | ? |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2643 | 2647 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2L | 2.0 | 2.0 | | | |
| Start Time | 0810 | 0813 | 0827 | | | |
| Stop Time | 14:04 | 14:07 | 14:12 | | | |
| Run Time (Minutes) | 354 | 354 | 345 | | | |
| Minimum Concentration (ug/m3) | 28.7 | 29.4 | 32.1 | | | |
| Maximum Concentration (ug/m3) | 128.4 | 190.0 | 176.2 | | | |
| Average Concentration (TWA) (ug/m3) | 46.4 | 46.7 | 45.2 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: E Hoffman U.S. EPA: Norrell

Date: 1/5/02 RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2643 | 2647 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2 l/m | 2 l/m | 2 l/m | | | |
| Start Time | 1758 | 1861 | 1916 | | | |
| Stop Time | 1439 | 1411 | 1413 | | | |
| Run Time (Minutes) | 370 | 369 | 357 | | | |
| Minimum Concentration (ug/m3) | 32 | 11.6 | 19.8 | | | |
| Maximum Concentration (ug/m3) | 591 | 155.4 | 61.3 | | | |
| Average Concentration (TWA) (ug/m3) | 26.1 | 28.1 | 24.6 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: E Hoffman U.S. EPA: Norrell

Date: 1/4/02 RST Site Project Manager: Brennan

| Location | K | L | M | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2646 | 2643 | 2647 | | | |
| Flow Rate (Liters / Minute) | 2 L/m | 2 L/m | 2 L/m | | | |
| Start Time | 1204 | 1205 | 1206 | | | |
| Stop Time | 1450 ~~1450~~ | ~~1452~~ 1451 | 1455 | | | |
| Run Time (Minutes) | 406 | 406 | 396 | | | |
| Minimum Concentration (ug/m3) | 0.1 | 0.2 | 0.0 | | | |
| Maximum Concentration (ug/m3) | 85.4 | 203.4 | 77.6 | | | |
| Average Concentration (TWA) (ug/m3) | 13.3 | 14.3 | 10.96 | | | |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/05/02**

| File Name | NYC679 | NYC680 | NYC681 | NYC682 | NYC684 | NYC683 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07309 | A07310 | A07311 | A07312 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **1500** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **880** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | **47** | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | **43** | **640** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **62** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **160** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | **21** | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **84** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **1700** | RL |
| Heptane | RL | RL | RL | RL | **42** | RL |
| Trichloroethene | RL | RL | RL | RL | **24** | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **21** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **1200** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | **62** | RL |
| Ethylbenzene | RL | RL | RL | RL | **1800** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **72** | RL |
| 0-Xylene | RL | RL | RL | RL | **35** | RL |
| Styrene | RL | RL | RL | RL | **510** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | **22** | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/04/02**

| File Name | NYC669 | NYC670 | NYC671 | NYC672 | NYC675 | NYC673 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07305 | A07306 | A07307 | A07308 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | **150** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **370** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **24** | RL |
| Acetone | RL | RL | **36** | **120** | **1300** | **630** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **240** | **56** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **87** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **210** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **100** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | **28** | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **88** | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **55** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS. TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/06/02**

| File Name | NYC689 | NYC690 | NYC691 | NYC692 | NYC694 | NYC693 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07313 | A07315 | A07314 | A07316 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **2900** | RL |
| Dichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **1500** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | **86** | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **1200** | **45** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | R |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **97** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **310** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | **80** | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **230** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **2800** | RL |
| Heptane | RL | RL | RL | RL | **63** | RL |
| Trichloroethene | RL | RL | RL | RL | **63** | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | **42** | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **45** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **1400** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | **26** | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | **150** | RL |
| Ethylbenzene | RL | RL | RL | RL | **1900** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **180** | RL |
| o-Xylene | RL | RL | RL | RL | **78** | RL |
| Styrene | RL | RL | RL | RL | **560** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | **58** | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | **96** | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | **64** | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | **46** | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | **46** | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | **27** | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Early

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Early

DATE: 11/6/02

RST: B.J. Hoffman

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 0817 | * | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| L | 0821 | \ | ND | ND | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0824 | * / | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0831 | \ | ND | ND | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| J | 0835 | \ | ND | .1 | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0839 | \ | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| F | 0844 | \ | ND | .7 | 20.8 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 0852 | \ | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| C | 0902 | \ | ND | ND | 20.7 | 2 | ND | ND | ND | ND | ND | ND | ND |
| B | 0906 | \ | ND | .1 | 20.7 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 0913 | \ | ND | .4 | 20.7 | 4 | ND | ND | ND | ND | ND | ND | ND |
| I | 0919 | \ | ND | .1 | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 0925 | \ | ND | .1 | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 0932 | \ | ND | ND | 20.8 | 8 | ND | ND | ND | ND | ND | ND | ND |
| T | 0939 | — ND | ACCESS | | | TO | | SAMPLE | | LOCATION | | | |
| U | 0944 | \ | ND | .1 | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| V | 0946 | \ | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 0957 | \ | ND | .2 | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| P | 1002 | \ | ND | .1 | 20.8 | 5 | ND | ND | ND | ND | ND | ND | ND |
| E | 1006 | \ | ND | .3 | 20.8 | 9 | ND | ND | ND | ND | ND | ND | ND |

Location A. Barkley and West Broadway
Location B: Church and Dey
Location C. Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S. Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Late

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Late

DATE: 11/6/02

RST: B Hoffman

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1209 | * | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1212 | | ND | 1 | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| N | 1216 | | ND | 1 | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| J | 1220 | | ND | 1 | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1224 | | ND | 1 | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| F | 1226 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1231 | | ND | 1 | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 1237 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 1238 | | ND | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| H | 1244 | | ND | .1 | 21.0 | 4 | ND | ND | ND | ND | ND | ND | ND |
| I | 1252 | | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1256 | | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1303 | | .2 | ND | 21.0 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 1310 | UNABLE TO SAMPLE LOCATION - NOT ACCESSIBLE | | | | | | | | | | | |
| W | 1310 | | ND | ND | 21.0 | 3 | ND | ND | ND | ND | ND | ND | ND |
| V | 1313 | | .1 | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| S | 1329 | | ND | ND | 20.9 | 6 | ND | ND | ND | ND | ND | ND | ND |
| P | 1332 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1335 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/5/02

RST: Cindy B. Hoffman

| Location | Time | PID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0803 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0810 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0817 | ND | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0823 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0827 | ND | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 0832 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0843 | ND | ND | ND | 20.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 0853 | ND | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0900 | ND | ND | .1 | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0908 | ND | ND | 1.7 | 20.3 | 6 | ND | ND | ND | ND | ND | ND | ND |
| E | 0918 | ND | ND | .1 | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0924 | ND | ND | 1 | 20.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 0930 | ND | ND | .1 | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | NO | ACCESS | TO | PUMP | AREA | | | | | | | | |
| U | 0941 | ND | ND | ND | 20.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| V | 0946 | ND | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 0955 | ND | ND | ND | 20.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| P | 0959 | ND | ND | .6 | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1005 | ND | ND | .4 | 20.4 | 6 | ND | ND | ND | ND | ND | ND | ND |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/5/01

RST: Site B Hoffman

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1219 | ~~ND~~ * | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1221 | ~~ND~~ * | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1223 | * | ND | .1 | 20.4 | 5 | ND | ND | ND | ND | ND | ND | ND |
| J | 1227 | \ | ND | .1 | 20.4 | 4 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1232 | ) | ND | .2 | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| F | 1235 | ( | ND | 2 | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1245 | \ | ND | .1 | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 1248 | ( | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 1250 | ) | ND | .1 | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| I ~~#~~ | 1259 | \ | ND | .3 | 20.5 | 4 | ND | ND | ND | ND | ND | ND | ND |
| D | 1305 | ( | ND | 2 | 20.7 | 6 | ND | ND | ND | ND | ND | ND | ND |
| K | 1309 | ) | ND | 2 | 20.7 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 1315 | \ | ~~ND~~ | ~~ND~~ | ~~20.7~~ | ~~2~~ | SAMPLE AGED NOT ACCEPTABLE | | | | | | |
| U | 1319 | \ | ND | ND | 20.7 | 2 | ND | ND | ND | ND | ND | ND | ND |
| V | 1320 | \ | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1335 | \ | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1336 | \ | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1340 | \ | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1350 | \ | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |

# FID will not stay ignited

Location A: Berkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Early

DATE: 1/4/02 RST: 2 Hoffman

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0820 | * | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0815 | | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1621 | | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0827 | | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 0832 | | ND | ND | 20.7 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 0836 | | ND | ND | 20.6 | 2 | ND | ND | ND | ND | ND | ND | ND |
| A | 0850 | | ND | ND | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 0859 | | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0902 | | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0914 | | ND | ND | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 0926 | | ND | ND | 20.5 | 7 | ND | ND | ND | ND | ND | ND | ND |
| L | 0934 | | ND | ND | 20.5 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 0943 | | ND | ND | 20.4 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 0954 | | ND | ND | 20.5 | 2 | ND | ND | ND | ND | ND | ND | ND |
| M | 0959 | | ND | ND | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1009 | | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1015 | | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1025 | | ND | ND | 20.5 | 3 | ND | ND | ND | ND | ND | ND | ND |
| G | 1032 | | ND | ND | 20.5 | 2 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |

* Flame wouldn't light up.

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

late

DATE: 9/4/25

RST: B Hamilton

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1233 | * | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1235 | | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1237 | | ND | ND | 20.6 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 1242 | | ND | ND | 20.6 | 3 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1245 | | ND | ND | 20.6 | 10 | ND | ND | ND | ND | ND | ND | ND |
| F | 1247 | | ND | ND | 20.7 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 1306 | | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| B | 1311 | | ND | ND | 20.8 | 7 | ND | ND | ND | ND | ND | ND | ND |
| C | 1315 | | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| H | 1323 | | ND | ND | 20.8 | 13 | ND | ND | ND | ND | ND | ND | ND |
| E | 1329 | | ND | ND | 20.7 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1341 | | ND | ND | 20.7 | 3 | ND | ND | ND | ND | ND | ND | ND |
| K | 1345 | | ND | 1 | 20.9 | 7 | ND | ND | ND | ND | ND | ND | ND |
| T | 1350 | | ND | ND | 20.7 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1355 | | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1353 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 1407 | | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1411 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1416 | | ND | ND | 21.0 | 2 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* Flame wouldn't light up.

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, January 8, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on 1/8**

**Air: Fixed Monitors in New York:**
**Asbestos** - EPA analyzed 41 samples taken in and around ground zero on January 3 and 4. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,360, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-eight air samples collected on January 3 and 4 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 6 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 7 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

Samples taken at the North Tower debris pile exceeded the OSHA standards for both benzene and 1,3-butadiene on January 7. All samples taken at EPA's Wash Tent (West St. and Murray), Austin Tobin Plaza and the South Tower debris pile showed no detectable levels of either benzene or 1,3-butadiene on January 7.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 7. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, January 8, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 1, 1200 - 2359 hrs)

Results pending.

NYC / ER (Jan 2, 0001 - 1200 hrs)

Results pending.

NYC / ER (Jan 2, 1200 - 2359 hrs)

Results pending.

NYC / ER (Jan 3, 0001 - 1200 hrs)

Result spending.

NYC / ER (Jan 3, 1200 - 2359 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
2 samples (Locations J and K-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Jan 4, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location W) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 3, 0755 - 2230 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 4, 0745 - 2157 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: The results for Location W-11 indicate a total of 4 structures. There were 2 structures identified for each size classification. One of the structures was chrysotile, the other was amosite.

Fresh Kills (Jan 6) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Jan 7) - Particulate Monitoring (Dataram)

Particulate monitoring at three locations (Stations L, N, R) was not conducted due to weather conditions.

NYC / ER (Jan 7) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).
1,3-Butadiene exceeded OSHA PEL (1 ppm) at one location (North Tower) on the debris pile in the plume at ground level.
All 3 of the other samples did not note any 1,3-Butadiene above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 7)

Nothing of significance reported in the limited monitoring conducted.
Monitoring impacted by weather conditions.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/03/02 1200 to 2359**

**Data Validation Date: 01/06/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/03/02 | RST-02776 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02777 | M1 | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/03/02 | RST-02778 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | - | J | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/03/02 | RST-02779 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02780 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02781 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02782 | B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02783 | C | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02784 | H | 595 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 01/03/02 | RST-02785 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02786 | D | 633 | Air | 16.56 | 0.010 | 0 | 0 | <8.00 | <0.0049 |
| 01/03/02 | RST-02787 | K | 720 | Air | 14.65 | 0.008 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | - | K-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/03/02 | RST-02788 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02789 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02790 | U-Duplicate | 605 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0051 |
| 01/03/02 | RST-02791 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02792 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02793 | P | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02794 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02795 | W | 720 | Air | 14.01 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | FB010402 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/04/02 | TB010402 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-03-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/04/02 0001 to 1200**

**Data Validation Date: 01/06/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/04/02 | RST-02796 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02797 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02798 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02799 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02800 | Q | 696 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/04/02 | RST-02801 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02802 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02803 | B | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02804 | C | 720 | Air | 12.10 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02805 | H | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02806 | I | 662 | Air | 10.19 | 0.006 | 0 | 0 | <8.00 | <0.0047 |
| 01/04/02 | RST-02807 | D | 609 | Air | 19.11 | 0.012 | 0 | 0 | <8.00 | <0.0051 |
| 01/04/02 | RST-02808 | K | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02809 | T | 276 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0112 |
| 01/04/02 | RST-02810 | T-Duplicate | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02811 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02812 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02813 | V-Duplicate | 524 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0059 |
| 01/04/02 | RST-02814 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02815 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02816 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | - | W | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/04/02 | FB010402 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/04/02 | TB010402 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-04-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/03/02 0755 to 2230**

Data Validation Date: 01/05/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/03/02 | LF01940 | P-1 | 720 | Air | NA (1) | NA (1) | 0 | 1**** | 8.75 | 0.0047 |
| 01/03/02 | LF01941 | P-2 | 491 | Air | <7.0 | <0.0055 | 1*** | 0 | 7.87 | 0.0062 |
| 01/03/02 | LF01942 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01943 | P-4 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/03/02 | LF01944 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01945 | P-6 | 527 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0058 |
| 01/03/02 | LF01946 | P-7 | 664 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/03/02 | LF01947 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01948 | W-11 | 720 | Air | 7.64 | 0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/03/02 | LF01949 | W-12A | 720 | Air | 30.57 | 0.016 | 3*** | 0 | 26.25 | 0.0140 |
| 01/03/02 | LF01950 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01951 | B-13 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01952 | B-14 | 720 | Air | NA (1) | NA (1) | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01953 | T-15 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01954 | T-16 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01955 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01956 | O-18 | 693 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/03/02 | LF01957 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01958 | MPHS-20 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/03/02 | LF01959 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/03/02 | LF01960 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Actinolite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-03-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/04/02 0745 to 2157**

**Data Validation Date: 01/06/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/04/02 | LF01961 | P-1 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01962 | P-2 | 536 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0057 |
| 01/04/02 | LF01963 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01964 | P-4 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01965 | P-5 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01966 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01967 | P-7 | 670 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0045 |
| 01/04/02 | LF01968 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01969 | W-11 | 720 | Air | <7.0 | <0.004 | 1*** 1**** | 1*** 1**** | 31.50 | 0.0168 |
| 01/04/02 | LF01970 | W-12A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01971 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01972 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01973 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01974 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01975 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01976 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01977 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01978 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/04/02 | LF01979 | MPHS-20 | 654 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/04/02 | LF01980 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |
| 01/04/02 | LF01981 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-04-02-am.xls

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
January 6, 2002

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 35 | 08:45:00 | 10 | 00:15:00 | 100 | 0.0 | 22.0 | 42.2 | 392.5 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 34 | 08:30:00 | 10 | 00:15:00 | 100 | 0.0 | 33.1 | 61.8 | 968.9 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 34 | 08:30:00 | 10 | 00:15:00 | 100 | 0.0 | 26.8 | 50.9 | 887.9 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/07/02**

| File Name | NYC699 | NYC700 | NYC701 | NYC702 | NYC704 | NYC703 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07317 | A07318 | A07319 | A07320 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 20 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 250 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **11000** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **460** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | **2600** | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | **53** |
| Acetone | RL | RL | RL | RL | **1800** | **130** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **400** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **5300** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **1800** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | **440** | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **1200** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, January 9, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on 1/9**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 144 samples taken in and around ground zero on January 1 through January 6. EPA also sampled for asbestos at two additional lower Manhattan locations on January 3 and January 4. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,508, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Public School 154 (33 East 135th St., Bronx), Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 3 and January 4. None showed exceedances of the AHERA re-entry standard.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from December 31 through January 5 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 $ug/m^3$ for all stations. These results were also less than 40 $ug/m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from December 31 through January 5 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 8 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 8 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

Samples taken at the North Tower debris pile exceeded the OSHA standards for both benzene and 1,3-butadiene on January 8. All samples taken at EPA's Wash Tent (West St. and Murray), Austin Tobin Plaza and the South Tower debris pile showed no detectable levels of either benzene or 1,3-butadiene on January 8.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 8. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, January 9, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 1, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 2, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.
Note: Low sample volumes recorded.

NYC / ER (Jan 2, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
2 samples (Locations D-duplicate and T) were not collected due to equipment malfunctions.

NYC / ER (Jan 3, 0001 - 1200 hrs)

All 23 samples analyzed were below the TEM AHERA standard.
1 sample (Location D) was not collected due to an equipment malfunction.
Note: Totals include 2 samples collected from Location T on Dec 28 and Dec 29 that were previously not included with the results from those days.

NYC / ER (Jan 4, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access to that location was not available.

NYC / ER (Jan 5, 0001 - 1200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations A and M1) were not collected due to equipment malfunctions.
1 location (Location T) was not sampled since access to that location was not available.

NYC / ER (Jan 5, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location I) was not collected due to an equipment malfunction.
2 locations (Locations C and C-duplicate) were not sampled since the pumps were missing.
1 location (Location T) was not sampled since access to that location was not available.

NYC / ER (Jan 6, 0001 - 1200 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 sample (Location A-duplicate) was not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access to that location was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 8) - Particulate Monitoring (Dataram)

No measurements taken due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Jan 3 - 4) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Dec 31) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.87 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.35 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***12.74 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Dec 31) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.52 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 1) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.87 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.33 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***11.19 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 1) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.08 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 2) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.51 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***9.75 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.74 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 2) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***26.36 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 3) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***12.17 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.19 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***13.87 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 3) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***30.11 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 4) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.75 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***9.70 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***14.71 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 4) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***36.13 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 5) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***16.41 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.05 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***15.47 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 5) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***27.58 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 8) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 1.9 to 146.8 ug/$m^3$ with an average of 13.2 ug/$m^3$.
Station N values ranged from 7.3 to 70.7 ug/$m^3$ with an average of 15.1 ug/$m^3$.
Station R values ranged from 0.0 to 110.8 ug/$m^3$ with an average of 14.1 ug/$m^3$.

NYC / ER (Jan 8) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
All 3 of the other samples (Washing Tent, Austin Tobin Plaza, and South Tower) did not note any benzene above the detection limit (20 ppbv).
1,3-Butadiene exceeded OSHA PEL (1 ppm) at one location (North Tower) on the debris pile in the plume at ground level.
All 3 of the other samples did not note any 1,3-Butadiene above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 8)

Nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/02/02 1200 to 2359**

**Data Validation Date: 01/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/02/02 | RST-02732 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02733 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02734 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02735 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02736 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02737 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02738 | A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02739 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02740 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02741 | H | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/02/02 | RST-02742 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/02/02 | RST-02743 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02744 | D | 488 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 01/02/02 | - | D-Duplicate | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/02/02 | RST-02745 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | - | T | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/02/02 | RST-02746 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02747 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02748 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02749 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02750 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02751 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02752 | W | 672 | Air | 12.10 | 0.007 | 0 | 0 | <8.00 | <0.0046 |
| 01/03/02 | FB010302 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/03/02 | TB010302 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

NYC Response
Asbestos Air Sampling Results at Fixed Locations
Sampling Date and Time: 01/02/02 0001 to 1200

Data Validation Date: 01/07/02

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/02/02 | RST-02710 | L | 665 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/02/02 | RST-02711 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02712 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02713 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02714 | Q | 282 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0109 |
| 01/02/02 | RST-02715 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02716 | A | 252 | Air | <7.0 | <0.011 | 0 | 0 | <8.00 | <0.0122 |
| 01/02/02 | RST-02717 | C | 267 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0115 |
| 01/02/02 | RST-02718 | B | 681 | Air | 17.83 | 0.010 | 1*** | 0 | 8.00 | 0.0045 |
| 01/02/02 | RST-02719 | H | 690 | Air | 7.64 | 0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/02/02 | RST-02720 | I | 554 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0056 |
| 01/02/02 | RST-02721 | D | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02722 | K | 713 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02723 | T | 709 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02724 | U | 348 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0089 |
| 01/02/02 | RST-02725 | U-Duplicate | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 01/02/02 | RST-02726 | V | 655 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/02/02 | RST-02727 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02728 | S-Duplicate | 7 [a] | Air | <7.0 | <0.385 | 0 | 0 | <8.00 | <0.4400 |
| 01/02/02 | RST-02729 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02730 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02731 | W | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | FB010202 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/02/02 | TB010202 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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C: Trinity (a.k.a. Church) & Liberty
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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
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I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
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U: Pier 6 Exit 2
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**Key:**
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[a] extremely low sample volume collected
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-02-02-am.xls

NYC Response
Asbestos Air Sampling Results at Fixed Locations
Sampling Date and Time: 01/02/02 1200 to 2359

Data Validation Date: 01/05/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (f) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/02/02 | RST-02732 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02733 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02734 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02735 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02736 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02737 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02738 | A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02739 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02740 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02741 | H | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/02/02 | RST-02742 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/02/02 | RST-02743 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02744 | D | 488 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 01/02/02 | - | D-Duplicate | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/02/02 | RST-02745 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | - | T | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/02/02 | RST-02746 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02747 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02748 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02749 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02750 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02751 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/02/02 | RST-02752 | W | 672 | Air | 12.10 | 0.007 | 0 | 0 | <8.00 | <0.0046 |
| 01/03/02 | FB010302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/03/02 | TB010302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C1: SW corner of Broadway & Liberty St.
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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-02-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/03/02 0001 to 1200 [a]**

**Data Validation Date: 01/07/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/03/02 | RST-02753 | L | 664 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0046 |
| 01/03/02 | RST-02754 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0048 |
| 01/03/02 | RST-02755 | N | 613 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0056 |
| 01/03/02 | RST-02756 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0048 |
| 01/03/02 | RST-02757 | Q | 701 | Air | 9.55 | 0.005 | 0 | 0 | <8.39 | <0.0049 |
| 01/03/02 | RST-02758 | F | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.39 | <0.0049 |
| 01/03/02 | RST-02759 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02760 | B | 688 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/03/02 | RST-02761 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02762 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02763 | I | 689 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/03/02 | RST-02764 | I-Duplicate | 650 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/03/02 | - | D | NS | NS | NS | NS | NS | NS | NS | NS |
| 01/03/02 | RST-02765 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02766 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02767 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02768 | V | 708 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02769 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02770 | P | 678 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/03/02 | RST-02771 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/03/02 | RST-02772 | E-Duplicate | 660 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/03/02 | RST-02773 | W | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/28/01 | [a]RST-02774 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 12/29/01 | [a]RST-02775 | T | 642 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/03/02 | FB010302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/03/02 | TB010302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**

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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
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M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
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U: Pier 6 Exit 2
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
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[a] - Sample RST-02774 was collected 12/28/2001; Sample RST-02775 was collected 12/29/2001, due to access limitations and are not included on air sampling work sheets.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/07/2002**
**Sampling Date and Time: 01/04/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/04/02 | RST-02817 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02818 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02819 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02820 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02821 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02822 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02823 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02824 | F | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02825 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02826 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02827 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02828 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02829 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02830 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02831 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/04/02 | RST-02832 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02833 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02834 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02835 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02836 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/04/02 | RST-02837 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | FB010502 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/05/02 | TB010502 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-04-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/05/02 0001 to 1200**

**Data Validation Date: 01/07/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/05/02 | RST-02838 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | - | M1 | NS[1] | Air | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 01/05/02 | RST-02839 | M1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02840 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02841 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02842 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02843 | Q | 698 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/05/02 | RST-02844 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | - | A | NS[1] | Air | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] | NS[1] |
| 01/05/02 | RST-02845 | B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02846 | C | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02847 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02848 | I | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02849 | D | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02850 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | - | T | NS[2] | Air | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] | NS[2] |
| 01/05/02 | RST-02851 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02852 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02853 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02854 | P | 705 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/05/02 | RST-02855 | E | 644 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/05/02 | RST-02856 | W | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | FB010502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/05/02 | TB010502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-05-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/05/02 1200 to 2359**

**Data Validation Date: 01/08/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/05/02 | RST-02857 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02858 | M1 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02859 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02860 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02861 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02862 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02863 | F-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02864 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | - | C | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | - | C-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | RST-02865 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02866 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | - | I | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | RST-02867 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02868 | K | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02869 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | RST-02870 | V | 688 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/05/02 | RST-02871 | S | 303 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0102 |
| 01/05/02 | RST-02872 | P | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/05/02 | RST-02873 | E | 631 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 01/05/02 | RST-02874 | W | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 01/06/02 | FB010602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/06/02 | TB010602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/08/2002**
**Sampling Date and Time: 01/06/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 01/06/02 | RST-02875 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02876 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02877 | N | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02878 | J | 674 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0046 |
| 01/06/02 | RST-02879 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02880 | F | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02881 | A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | - | A-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/06/02 | RST-02882 | C | 720 | Air | 12.10 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02883 | B | 387 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0080 |
| 01/06/02 | RST-02884 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02885 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02886 | I | 664 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/06/02 | RST-02887 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02888 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02889 | U | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02890 | V | 325 | Air | <7.0 | <0.008 | 0 | 0 | <8.89 | <0.0105 |
| 01/06/02 | RST-02891 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02892 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02893 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02894 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | FB010602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/06/02 | TB010602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-06-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/03/02 1200 to 2400**

**Data Validation Date: 01/07/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/03/02 | 7093-18-0098 | Park Row | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 01/03/02 | 7093-19-0098 | Chambers Street | 1350 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/03/02 | 7093-15-0096 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/03/02 | 7094-09-0087 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/03/02 | 7096-12-0092 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/03/02 | 7095-98-0092 | Brooklyn PS #274 | 1262 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/03/02 | 7097-18-0089 | Staten Island PS #44 | 1344 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/04/02 1200 to 2400**

**Data Validation Date: 01/07/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/04/02 | 7093-18-0099 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/04/02 | 7093-19-0099 | Chambers Street | 1404 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/04/02 | 7093-15-0097 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/04/02 | 7094-09-0088 | Bronx PS #154 | 1284 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 01/04/02 | 7096-12-0093 | Queens PS #199 | 854*** | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0045 |
| 01/04/02 | 7095-98-0093 | Brooklyn PS #274 | 1320 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 01/04/02 | 7097-18-0090 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J. Pittuck Chan U.S. EPA: Norrell

Date: 11/8/02 RST Site Project Manager Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2646 | 2647 | 2607 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 7:48 | 7:50 | ~~0807~~ | | | |
| Stop Time | 13:49 | 13:52 | 0807 13:54 | | | |
| Run Time (Minutes) | ~~347~~ 361 P.C. | 362 | 347 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 1.9 | 7.3 | | | |
| Maximum Concentration (ug/m3) | 110.8 | 146.8 | 70.7 | | | |
| Average Concentration (TWA) (ug/m3) | 14.1 | 13.2 | 15.1 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

WESTON

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 11/3/02 (EMILY) RST: BRENNAN

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0755 | * | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0805 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0810 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 0820 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0825 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 0830 | | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 0845 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 0850 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 0855 | | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| H | 0905 | | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 0910 | | ND | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| D | 0920 | | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 0925 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| T | 0935 | | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| U | 0940 | | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 0945 | | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1010 | | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1015 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1025 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FID WAS ON NEXT LIGHT — HCl, HF, $COCl_2$ - SPM

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-8-02 (Late) RST: Brennan

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1205 | * | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1210 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 1215 | | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| J | 1220 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1225 | | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| F | 1227 | | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| A | 1230 | | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| C | 1233 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 1235 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| H | 1240 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 1245 | | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1252 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| K | 1255 | | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 1300 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1302 | | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| V | 1305 | | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| S | 1315 | | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ** |
| P | 1318 | | ND | ND | 21.2 | 7 | ND | ND | ND | ND | ND | ND | |
| E | 1321 | ↓ | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ↓ |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* FID would not light
** Battery dead

HCl, HF, $COCl_2$ - 3:24 pm

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/08/02**

| File Name | NYC708 | NYC709 | NYC710 | NYC711 | NYC713 | NYC712 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07321 | A07324 | A07322 | A07323 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 20 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 250 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **17000** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **590** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | **4300** | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **21000** | **25** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **31** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **800** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **7700** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **4600** | RL |
| Heptane | RL | RL | RL | RL | **630** | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **3500** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | **500** | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **1200** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **830** | RL |
| o-Xylene | RL | RL | RL | RL | **560** | RL |
| Styrene | RL | RL | RL | RL | **7400** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | **270** | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, January 10, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 8:30 a.m. on 1/11**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 42 samples taken in and around ground zero on January 6 and 7. EPA also sampled for asbestos at two additional lower Manhattan locations on January 5. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,552, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 5. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-three air samples collected on January 8 and 9 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 8 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 9 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 9 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either did not exceed OSHA standards, or showed no detectable levels, of either benzene or 1,3-butadiene on January 9.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 9. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, January 10, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 6, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
2 samples (Locations D and Q) were not collected due to equipment malfunctions.
A sample was not submitted to the lab for Location T since access to that location was not available.
Note: Totals include 2 samples collected from Location T on Jan 4 (1200 - 2359hrs) and Jan 5 (0001 - 1200hrs) that were previously not included with the results from those days.
Note: Low sample volume recorded.

NYC / ER (Jan 7, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
A sample was not submitted to the lab for Location T since access to that location was not available.
Note: Low sample volumes recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 5, 0753 - 2131 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
2 samples (Location B-14 and O-19) were not collected due to equipment malfunction.
2 locations (Locations P-1 and W-11) were not analyzed due to overloading of particulates.
Note: The results for Location T-16 indicate a total of 2 structures identified for the '0.5u - 5u' size classification. One of the structures was chrysotile, the other was tremolite.

Fresh Kills (Jan 6, 0740 - Jan 7, 0108 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-2) was not collected due to equipment malfunction.

Fresh Kills (Jan 8) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.
Note: Previously reported in the December 9 Sampling Situation Report that there were no measurements taken on January 8 due to the weather conditions. The date should have actually been January 7.

Ambient Air Sampling Locations

NYC / ER (Jan 5) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 6 samples were collected from these monitoring sites.
A sample was not collected from Site 5 since access to that location was not available.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 9) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 1½ to 2 hours due to the weather conditions.
Station L values ranged from 35.3 to 217.0 ug/m$^3$ with an average of 51.5 ug/m$^3$.
Station N values ranged from 0.0 to 205.8 ug/m$^3$ with an average of 50.7 ug/m$^3$.
Station R values ranged from 28.0 to 128.7 ug/m$^3$ with an average of 42.0 ug/m$^3$.

NYC / ER (Jan 9) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.
1,3-Butadiene was not detected in any of the samples above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 9)

Nothing of significance reported in the limited monitoring conducted.
Monitoring impacted by weather conditions.

NYC Response
Asbestos Air Sampling Results at Fixed Locations
Sampling Date and Time: 01/06/02 1200 to 2359

Data Validation Date: 01/09/02

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 01/06/02 | RST-02895 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02896 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02897 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02898 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02899 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | - | Q | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/06/02 | RST-02900 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02901 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02902 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02903 | B | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02904 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02905 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | - | D | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/06/02 | RST-02906 | D-Duplicate | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02907 | K | 687 | Air | 8.92 | 0.005 | 0 | 0 | <8.00 | <0.0045 |
| 01/06/02 | RST-02908 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02909 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02910 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02911 | P | 290 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0106 |
| 01/06/02 | RST-02912 | E | 421 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 01/04/02 | [a] RST-02913 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/05/02 | [a] RST-02914 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/06/02 | RST-02915 | W | 524 | Air | 7.01 | 0.005 | 0 | 0 | <8.00 | <0.0059 |
| 01/07/02 | FB010702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/07/02 | TB010702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method: volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

(a) Sample RST-02913 was collected 01-04-02, 1200-2359 and sample RST-02914 was collected 01-05-02, 0001-1200.

FL-01-06-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/07/02 0001 to 1200**

**Data Validation Date: 01/09/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/07/02 | RST-02916 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02917 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02918 | M1-Duplicate | [a] 16 | Air | <7.0 | <0.169 | 0 | 0 | <8.00 | <0.1925 |
| 01/07/02 | RST-02919 | N | [a] 169 | Air | <7.0 | <0.016 | 0 | 0 | <8.00 | <0.0182 |
| 01/07/02 | RST-02920 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02921 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02922 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02923 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02924 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02925 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02926 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02927 | I | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02928 | D | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02929 | K | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02930 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02931 | U-Duplicate | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02932 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02933 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02934 | P | 540 | Air | 15.29 | 0.011 | 0 | 0 | <8.00 | <0.0057 |
| 01/07/02 | RST-02935 | E | 345 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0089 |
| 01/07/02 | RST-02936 | W | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | FB010702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/07/02 | TB010702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
[a] extremely low sample volume collected
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-07-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/05/02 0753 to 2131**

**Data Validation Date: 1/09/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/05/02 | LF01982 | P-1 | 720 | Air | <7.0 | <0.004 | NA[1] | NA[1] | NA[1] | NA[1] |
| 01/05/02 | LF01983 | P-2 | 420 | Air | <7.0 | <0.006 | 1*** | 0 | 7.87 | 0.0072 |
| 01/05/02 | LF01984 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01985 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01986 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01987 | P-6 | 556 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0055 |
| 01/05/02 | LF01988 | P-7 | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/05/02 | LF01989 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01990 | W-11 | 720 | Air | 15.29 | 0.008 | NA[1] | NA[1] | NA[1] | NA[1] |
| 01/05/02 | LF01991 | W-12A | 720 | Air | 20.38 | 0.011 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01992 | W-12B | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/05/02 | LF01993 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.75 | 0.0047 |
| 01/05/02 | LF01994 | B-14 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | LF01995 | T-15 | 720 | Air | 24.2 | 0.013 | 0 | 1*** | 8.75 | 0.0047 |
| 01/05/02 | LF01996 | T-16 | 720 | Air | <7.0 | <0.004 | 1***1**** | 0 | 17.50 | 0.0094 |
| 01/05/02 | LF01997 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01998 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF01999 | O-19 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | LF02000 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/05/02 | LF02001 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/05/02 | LF02002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-05-02-am.xls

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 01/06/02 0740 to 01/07/02 0108

Data Validation Date: 01/09/2002

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/06/02 | LF02003 | P-1 | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02004 | P-2 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/06/02 | LF02005 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02006 | P-4 | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/06/02 | LF02007 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02008 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02009 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02010 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02011 | W-11 | 720 | Air | NA(1) | NA(1) | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02012 | W-12A | 720 | Air | 49.68 | 0.027 | 1*** | 1*** | 17.50 | 0.0094 |
| 01/06/02 | LF02013 | W-12B | 720 | Air | 11.46 | 0.006 | 1*** | 0 | 8.75 | 0.0047 |
| 01/06/02 | LF02014 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02015 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02016 | T-15 | 720 | Air | 22.93 | 0.012 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02017 | T-16 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02018 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02019 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02020 | O-19 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/06/02 | LF02021 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/06/02 | LF02022 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/06/02 | LF02023 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-06-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/05/02 1200 to 2400**

**Data Validation Date: 01/09/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/05/02 | 7093-18-0100 | Park Row | 1440 | Air | <7.0 | <0.002 | 1**** | 0 | 16 | 0.0043 |
| 01/05/02 | 7093-19-0100 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/05/02 | 7093-15-0098 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/05/02 | 7094-09- | Bronx PS #154 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | 7096-12-0094 | Queens PS #199 | 1370 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 01/05/02 | 7095-98-0094 | Brooklyn PS #274 | 1264 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/05/02 | 7097-18-0091 | Staten Island PS #44 | 1412 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted due to no access to station location
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 8, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 18 | 04:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.5 | 9.6 | 152.3 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 16 | 04:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 14.3 | 103.7 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 19 | 04:45:00 | 10 | 00:15:00 | 100 | 0.0 | 0.7 | 6.8 | 15.7 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/09/02**

| File Name | NYC718 | NYC719 | NYC720 | NYC721 | NYC724 | NYC722 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07325 | A07327 | A07326 | A07328 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | **84** | **42** |
| Chlorodifluoromethane | RL | RL | RL | RL | **25** | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | **180** | **26** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | **100** | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **75** | RL |
| Acetone | RL | RL | RL | RL | **1400** | **34** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | **21** | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | **87** | **160** |
| MTBE | RL | RL | RL | RL | **29** | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **22** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **120** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **33** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | **68** | RL |
| Cyclohexane | RL | RL | RL | RL | **32** | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **38** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | **390** | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | **22** | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **100** | **39** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **32** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **96** | RL |
| o-Xylene | RL | RL | RL | RL | **44** | RL |
| Styrene | RL | RL | RL | RL | **55** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | **28** | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J. Brennan U.S. EPA: Norrell

Date: 1-9-02 RST Site Project Manager Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2646 | 2667 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0757 | 0801 | 0816 | | | |
| Stop Time | 0951* | 0954* | 0959* | | | |
| Run Time (Minutes) | 113 | 112 | 98 | | | |
| Minimum Concentration (ug/m3) | 28.0 ~~42.0~~ | 35.3 | 0.0 | | | |
| Maximum Concentration (ug/m3) | 1287 | 217.0 | 205.8 | | | |
| Average Concentration (TWA) (ug/m3) | 42.0 | 51.5 | 50.7 | | | |

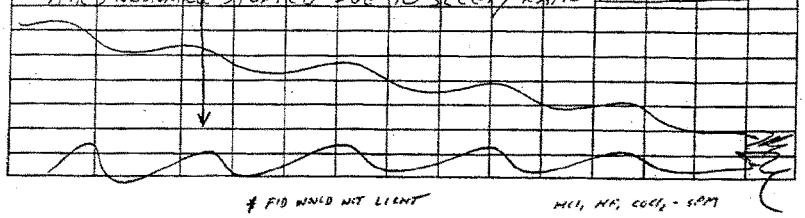
* Air Monitors Halted Early Due to Rain

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-4-02 (Early) RST: J. BRENNAN

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0815 | * | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0815 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0820 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0825 | | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0830 | | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| F | 0835 | | 0.2 | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 0855 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0905 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0910 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0920 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0925 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0935 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 0940 | | 0.1 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| AIR MONITORING STOPPED DUE TO SLEET / RAIN | | | | | | | | | | | | | |



* FID WILD NOT CLEAR

HCl, HF, $COCl_2$ - SAMP

Location A: Barclay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, January 11, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:30 p.m. on 1/11**

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from asbestos monitors at Public School 154 (33 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 6. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-four air samples collected on January 7 and 8 were analyzed for asbestos. All were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 10 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 10 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 10 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either did not exceed OSHA standards, or showed no detectable levels, of either benzene or 1,3-butadiene on January 10.

**Direct Air Readings -** EPA did air monitoring in and around ground zero for a number of compounds on January 10. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, January 11, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 7, 0758 - 2200 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
2 samples (Locations B-13 and O-19) were not collected due to equipment malfunctions.
1 location (Location W-11) was not analyzed due to overloading of particulates.
1 location (Location O-18) was not analyzed due to a wet/damaged filter.

Fresh Kills (Jan 8, 0815 - 2244 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Dec 10) - Metals

5 samples collected (Locations O-17, O-18, O-19, P-5, and P-8).
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Dec 15) - Metals

5 samples collected (Locations O-17, O-18, O-19, P-5, and P-8).
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Dec 19) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

Fresh Kills (Dec 21) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

Fresh Kills (Jan 9) - Particulate Monitoring (Dataram)

No measurements taken due to the weather conditions.

Fresh Kills (Jan 10) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Dec 3) - Volatile Organic Compounds

5 (Summa) samples collected over a period of approximately 8 hours.
4 work-zone locations, several at or near the perimeter (South Tower - South Side, North Tower - West Side, North Tower - North Side), and one at Austin Tobin Plaza.
1 ambient location at Location R.
All samples collected in the breathing zone.
VOCs in all 4 work-zone samples were either not detected or were below applicable OSHA PELs. As a further point of comparison, since several locations are at or near the perimeter, the results were all below EPA Removal Action level guidelines.
VOCs at Location R were either not detected or below the EPA Removal Action level guidelines (based on a 30-year exposure).
VOC concentrations in the work zone, including those at or near the perimeter, are significantly reduced as compared to results from daily grab samples collected on the debris pile in the plume at ground level.
**Note**: These breathing zone samples are influenced by ambient conditions and vehicular emissions over a period of approximately 8 hours as compared to the TAGA/mobile laboratory samples which are ground level plume samples in the debris collected over a period of one minute.
**Note**: Data will be included in a subsequent report.

NYC / ER (Dec 10) - Volatile Organic Compounds

5 (Summa) samples collected over a period of approximately 8 hours.
4 work-zone locations, several at or near the perimeter (South Tower - South Side, South Tower - Southwest Side, North Tower - Northwest Side), and one at Austin Tobin Plaza.
1 ambient location at Location R.
All samples collected in the breathing zone.
VOCs in all 4 work-zone samples were either not detected or were below applicable OSHA PELs. As a further point of comparison, since several locations are at or near the perimeter, the results were all below EPA Removal Action level guidelines.
1,1,2,2-Tetrachloroethane exceeded the EPA Removal Action level guidelines (based on a 30-year exposure) at Location R. Note: RAL is 0.45 ppbv.
1,1,2,2-Tetrachloroethane did not exceed the EPA Removal Action level guidelines adjusted to a 1-year exposure duration.
All other VOCs at Location R were either not detected or below the EPA Removal Action level guidelines (based on a 30-year exposure).
Wind conditions at the time of this sampling event place Location R upwind of the WTC work zone.
VOC concentrations in the work zone, including those at or near the perimeter, are significantly reduced as compared to results from daily grab samples collected on the debris pile in the plume at ground level.
**Note**: These breathing zone samples are influenced by ambient conditions and vehicular emissions over a period of 8 hours as compared to the TAGA/mobile

laboratory samples which are ground level plume samples in the debris collected over a period of one minute.

NYC / ER (Dec 17) - Volatile Organic Compounds

5 (Summa) samples collected over a period of approximately 8 hours.
4 work-zone locations, several at or near the perimeter (South Tower - South Side (aka: South), South Tower - Southwest Side (aka: SW Corner), North Tower - Northwest Side (aka: NW Corner)), and one at Austin Tobin Plaza (aka: East).
1 ambient location at Location R.
All samples collected in the breathing zone.
VOCs in all 4 work-zone samples were either not detected or were below applicable OSHA PELs. As a further point of comparison, since several locations are at or near the perimeter, the results were all below EPA Removal Action level guidelines.
VOCs at Location R were either not detected or below the EPA Removal Action level guidelines (based on a 30-year exposure).
VOC concentrations in the work zone, including those at or near the perimeter, are significantly reduced as compared to results from daily grab samples collected on the debris pile in the plume at ground level.
Note: These breathing zone samples are influenced by ambient conditions and vehicular emissions over a period of approximately 8 hours as compared to the TAGA/mobile laboratory samples which are ground level plume samples in the debris collected over a period of one minute.

NYC / ER (Dec 4) - Dioxin

All 10 samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

NYC / ER (Dec 6) - Dioxin

All 10 samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

NYC / ER (Dec 11) - Dioxin

All 10 samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

NYC / ER (Dec 11) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

NYC / ER (Dec 19) - Metals

10 samples collected.
Arsenic nominally exceeded the EPA Removal Action level guidelines (based on a 30-year exposure) at Location B. Note: RAL is 0.041 ug/$m^3$.
The arsenic concentration at Location B was below the EPA Removal Action level guidelines adjusted to 1-year exposure, and the NIOSH REL (2 ug/$m^3$) and OSHA PEL (10 ug/$m^3$).
All other metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

NYC / ER (Dec 6) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Dec 11) - PCBs

Trace amounts detected in 1 of 10 samples well below levels of concern.
Concentration detected was below the EPA Removal Action level guidelines.
9 samples analyzed did not detect any PCBs.

NYC / ER (Dec 19) - PCBs

Trace amounts detected in 1 of 10 samples well below levels of concern.
Concentration detected was below the EPA Removal Action level guidelines.
9 samples analyzed did not detect any PCBs.

NYC / ER (Dec 19) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Jan 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 6 samples were collected from these monitoring sites.
A sample was not collected from Site 6 due to an equipment malfunction.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 10) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6½ hours.
Station L values ranged from 0.0 to 171.7 ug/m$^3$ with an average of 41.6 ug/m$^3$.
Station N values ranged from 0.3 to 78.6 ug/m$^3$ with an average of 33.8 ug/m$^3$.
Station R values ranged from 0.0 to 98.0 ug/m$^3$ with an average of 34.9 ug/m$^3$.

NYC / ER (Jan 10) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Jan 10)

Low levels of carbon monoxide noted at nearly all stations during the afternoon monitoring period.
Otherwise, nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/07/02 0758 to 2200**

**Data Validation Date: 01/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/07/02 | LF02024 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02025 | P-2 | 597 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0056 |
| 01/07/02 | LF02026 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02027 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02028 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02029 | P-6 | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0062 |
| 01/07/02 | LF02030 | P-7 | 648 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0052 |
| 01/07/02 | LF02031 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02032 | W-11 | 720 | Air | NA(1) | NA(1) | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/07/02 | LF02033 | W-12A | 720 | Air | 15.29 | 0.008 | 1*** | 1*** | 17.50 | 0.0094 |
| 01/07/02 | LF02034 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02035 | B-13 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/07/02 | LF02036 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0042 |
| 01/07/02 | LF02037 | T-15 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <7.87 | <0.0042 |
| 01/07/02 | LF02038 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/07/02 | LF02039 | O-17 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/07/02 | LF02040 | O-18 | 225 | Air | NA(3) | NA(3) | NA(3) | NA(3) | NA(3) | NA(3) |
| 01/07/02 | LF02041 | O-19 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/07/02 | LF02042 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/07/02 | LF02043 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/07/02 | LF02044 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-07-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/08/02 0815 to 2244**

**Data Validation Date: 01/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/08/02 | LF02045 | P-1 | 674 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 01/08/02 | LF02046 | P-2 | 683 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/08/02 | LF02047 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02048 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02049 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02050 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02051 | P-7 | 712 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02052 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02053 | W-11 | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02054 | W-12A | 720 | Air | 19.11 | 0.010 | 1*** | 1*** | 17.50 | 0.0094 |
| 01/08/02 | LF02055 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02056 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02057 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02058 | T-15 | 720 | Air | 15.29 | 0.008 | 1*** | 0 | 8.75 | 0.0047 |
| 01/08/02 | LF02059 | T-16 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02060 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02061 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02062 | O-19 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/08/02 | LF02063 | MPHS-20 | 712 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/08/02 | LF02064 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |
| 01/08/02 | LF02065 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-08-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/06/02 1200 to 2229 and 01/05/02 1200 to 2400**

Data Validation Date: 01/10/2002

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/06/02 | 7093-18-0101 | Park Row | 1202 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/06/02 | 7093-19-0101 | Chambers Street | 1258 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 01/06/02 | 7093-15-0099 | Manhattan IS #143 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/05/02 | 7094-09-0089 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/06/02 | 7096-12-0095 | Queens PS #199 | 840*** | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0046 |
| 01/06/02 | 7095-98-0095 | Brooklyn PS #274 | 810*** | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0048 |
| 01/06/02 | 7097-18-0092 | Staten Island PS #44 | 910*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 10, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 41 | 10:15:00 | 10 | 00:15:00 | 100 | 0.0 | 7.7 | 27.9 | 150.2 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 40 | 10:00:00 | 10 | 00:15:00 | 100 | 0.0 | 20.2 | 33.3 | 103.2 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 40 | 10:00:00 | 10 | 00:15:00 | 100 | 0.0 | 13.0 | 24.8 | 65.0 |

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0020 | | WTC-0021 | | WTC-0015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4833 | |
| Date Collected | | - | | - | | - | | 12/10/01 | | 12/10/01 | | 12/10/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.28 | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.037 | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 4.1 | 2.5 | 4.1 | 2.5 | 4.0 | 2.5 | U | 2.5 | U | 2.5 | 1.8 | 0.52 |
| Chromium | ICAP | 0.73 | 0.13 | 0.81 | 0.13 | 0.69 | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.90 | 0.13 |
| Lead | AA-Fur | 0.055 | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.20 | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | WTC-0016 | | WTC-0017 | | WTC-0018 | | WTC-0019 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-19 | | O-18 | | O-17 | |
| Air Volume (L) | | 4480 | | 4365 | | 4420 | | 4770 | |
| Date Collected | | 12/10/01 | | 12/10/01 | | 12/10/01 | | 12/10/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.28 | U | 0.29 | U | 0.28 | U | 0.26 |
| Antimony | AA-Fur | U | 0.011 | U | 0.011 | U | 0.011 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.012 | U | 0.011 | U | 0.011 |
| Barium | ICAP | U | 0.028 | 0.029 | 0.029 | 0.034 | 0.028 | U | 0.026 |
| Beryllium | ICAP | U | 0.011 | U | 0.011 | U | 0.011 | U | 0.01 |
| Cadmium | ICAP | U | 0.028 | U | 0.029 | U | 0.028 | U | 0.026 |
| Calcium | ICAP | 0.65 | 0.56 | 0.91 | 0.57 | 0.89 | 0.57 | 0.59 | 0.52 |
| Chromium | ICAP | U | 0.028 | U | 0.029 | U | 0.028 | U | 0.026 |
| Cobalt | ICAP | U | 0.056 | U | 0.057 | U | 0.057 | U | 0.052 |
| Copper | ICAP | U | 0.056 | U | 0.057 | U | 0.057 | U | 0.052 |
| Iron | ICAP | 0.41 | 0.14 | 0.56 | 0.14 | 0.55 | 0.14 | 0.35 | 0.13 |
| Lead | AA-Fur | U | 0.011 | U | 0.012 | 0.012 | 0.011 | U | 0.011 |
| Magnesium | ICAP | U | 2.8 | U | 2.9 | U | 2.8 | U | 2.6 |
| Manganese | ICAP | U | 0.028 | U | 0.029 | U | 0.028 | U | 0.026 |
| Nickel | ICAP | U | 0.056 | 0.27 | 0.057 | U | 0.057 | U | 0.052 |
| Potassium | ICAP | U | 11 | U | 11 | U | 11 | U | 10 |
| Selenium | AA-Fur | U | 0.011 | U | 0.012 | U | 0.011 | U | 0.011 |
| Silver | ICAP | U | 0.028 | U | 0.029 | U | 0.028 | U | 0.026 |
| Sodium | ICAP | U | 2.8 | U | 2.9 | U | 2.8 | U | 2.6 |
| Thallium | AA-Fur | U | 0.011 | U | 0.012 | U | 0.011 | U | 0.011 |
| Vanadium | ICAP | U | 0.056 | U | 0.057 | U | 0.057 | U | 0.052 |
| Zinc | ICAP | 0.12 | 0.056 | 0.14 | 0.057 | 0.15 | 0.057 | 0.11 | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 05903 | | 05904 | | 05881 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4290 | |
| Date Collected | | - | | - | | - | | 12/11/01 | | 12/11/01 | | 12/11/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.54 | 0.29 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.012 | 0.012 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.012 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.051 | 0.029 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.012 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.029 |
| Calcium | ICAP | 4.1 | 2.5 | 4.1 | 2.5 | 4.0 | 2.5 | U | 2.5 | U | 2.5 | 1.7 | 0.58 |
| Chromium | ICAP | 0.73 | 0.13 | 0.81 | 0.13 | 0.69 | 0.13 | U | 0.13 | 0.13 | 0.13 | U | 0.029 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.058 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.058 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.98 | 0.15 |
| Lead | AA-Fur | 0.055 | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.02 | 0.012 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.9 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.029 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.058 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 12 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.012 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.029 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | 3.7 | 2.9 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.012 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.058 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.18 | 0.058 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 05882 | | 05883 | | 05884 | | 05885 | | 05886 | | 05887 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C -LIBERTY ST. & CHURCH | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4800 | | 4800 | | 4800 | | 4290 | | 4800 | | 4520 | |
| Date Collected | | 12/11/01 | | 12/11/01 | | 12/11/01 | | 12/11/01 | | 12/11/01 | | 12/11/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.30 | 0.26 | 1.0 | 0.26 | 0.73 | 0.26 | 0.98 | 0.29 | 0.67 | 0.26 | 0.86 | 0.28 |
| Antimony | AA-Fur | 0.013 | 0.01 | 0.016 | 0.01 | 0.016 | 0.01 | 0.019 | 0.012 | 0.017 | 0.01 | 0.029 | 0.011 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.012 | U | 0.01 | 0.017 | 0.011 |
| Barium | ICAP | 0.046 | 0.026 | 0.091 | 0.026 | 0.074 | 0.026 | 0.11 | 0.029 | 0.069 | 0.026 | 0.13 | 0.028 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.012 | U | 0.01 | U | 0.011 |
| Cadmium | ICAP | U | 0.026 | U | 0.026 | U | 0.026 | U | 0.029 | U | 0.026 | U | 0.028 |
| Calcium | ICAP | 1.5 | 0.52 | 7.4 | 0.52 | 6.4 | 0.52 | 9.7 | 0.58 | 6.1 | 0.52 | 8.0 | 0.55 |
| Chromium | ICAP | U | 0.026 | U | 0.026 | 0.05 | 0.026 | 0.03 | 0.029 | U | 0.026 | U | 0.028 |
| Cobalt | ICAP | U | 0.052 | U | 0.052 | U | 0.052 | U | 0.058 | U | 0.052 | U | 0.055 |
| Copper | ICAP | U | 0.052 | 0.085 | 0.052 | 0.096 | 0.052 | 0.15 | 0.058 | 0.22 | 0.052 | 0.32 | 0.055 |
| Iron | ICAP | 0.87 | 0.13 | 3.5 | 0.13 | 4.2 | 0.13 | 8.1 | 0.15 | 6.4 | 0.13 | 12 | 0.14 |
| Lead | AA-Fur | 0.033 | 0.01 | 0.062 | 0.01 | 0.062 | 0.01 | 0.09 | 0.012 | 0.089 | 0.01 | 0.19 | 0.011 |
| Magnesium | ICAP | U | 2.6 | U | 2.6 | U | 2.6 | U | 2.9 | U | 2.6 | U | 2.8 |
| Manganese | ICAP | U | 0.026 | 0.056 | 0.026 | 0.058 | 0.026 | 0.17 | 0.029 | 0.092 | 0.026 | 0.17 | 0.028 |
| Nickel | ICAP | 0.059 | 0.052 | 0.085 | 0.052 | 0.072 | 0.052 | 0.10 | 0.058 | 0.089 | 0.052 | 0.11 | 0.055 |
| Potassium | ICAP | U | 10 | U | 10 | U | 10 | U | 12 | U | 10 | U | 11 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.012 | U | 0.01 | U | 0.011 |
| Silver | ICAP | U | 0.026 | U | 0.026 | U | 0.026 | U | 0.029 | U | 0.026 | U | 0.028 |
| Sodium | ICAP | 3.5 | 2.6 | U | 2.6 | U | 2.6 | U | 2.9 | U | 2.6 | 3.9 | 2.8 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.012 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.052 | U | 0.052 | U | 0.052 | U | 0.058 | U | 0.052 | U | 0.055 |
| Zinc | ICAP | 0.20 | 0.052 | 0.35 | 0.052 | 0.42 | 0.052 | 0.59 | 0.058 | 0.52 | 0.052 | 1.6 | 0.055 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 05888 | | 05889 | | 05890 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTHEND | | S-RECTOR PLACE & SOUTHEND | | E-LIBERTY ST. & SOUTHEND | |
| Air Volume (L) | | 4670 | | 4820 | | 4730 | |
| Date Collected | | 12/11/01 | | 12/11/01 | | 12/11/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.60 | 0.27 | 0.38 | 0.26 | 0.53 | 0.26 |
| Antimony | AA-Fur | 0.015 | 0.011 | 0.012 | 0.01 | 0.014 | 0.011 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 |
| Barium | ICAP | 0.067 | 0.027 | 0.06 | 0.026 | 0.055 | 0.026 |
| Beryllium | ICAP | U | 0.011 | U | 0.01 | U | 0.011 |
| Cadmium | ICAP | U | 0.027 | U | 0.026 | U | 0.026 |
| Calcium | ICAP | 4.8 | 0.54 | 2.8 | 0.52 | 4.9 | 0.53 |
| Chromium | ICAP | U | 0.027 | U | 0.026 | U | 0.026 |
| Cobalt | ICAP | U | 0.054 | U | 0.052 | U | 0.053 |
| Copper | ICAP | 0.077 | 0.054 | 0.054 | 0.052 | 0.068 | 0.053 |
| Iron | ICAP | 3.0 | 0.13 | 1.8 | 0.13 | 2.5 | 0.13 |
| Lead | AA-Fur | 0.043 | 0.011 | 0.026 | 0.01 | 0.037 | 0.011 |
| Magnesium | ICAP | U | 2.7 | U | 2.6 | U | 2.6 |
| Manganese | ICAP | 0.042 | 0.027 | U | 0.026 | 0.038 | 0.026 |
| Nickel | ICAP | 0.063 | 0.054 | U | 0.052 | 0.074 | 0.053 |
| Potassium | ICAP | U | 11 | U | 10 | U | 11 |
| Selenium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 |
| Silver | ICAP | U | 0.027 | U | 0.026 | U | 0.026 |
| Sodium | ICAP | 2.9 | 2.7 | 2.8 | 2.6 | 2.7 | 2.6 |
| Thallium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.054 | U | 0.052 | U | 0.053 |
| Zinc | ICAP | 0.28 | 0.054 | 0.22 | 0.052 | 0.29 | 0.053 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/11/01**

| Sample No. | WG-6353-1P | | 05871 | | 05872 | | 05873 | | 05874 | | 05875 | | 05876 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 6600 | | 6825 | | 6765 | | 7200 | | 7200 | | 7200 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of MoCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | 1.43 | 1.39 | U | 1.39 | U | 1.39 |
| Sum of DiCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TrCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TeCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of PeCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HxCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HpCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of OcCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of NoCBs | U | 10.0 | U | 1.52 | U | 1.47 | U | 1.48 | U | 1.39 | U | 1.39 | U | 1.39 |
| Total | 0 | | 0 | | 0 | | 0 | | 1.43 | | 0 | | 0 | |

COC# 19858

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/27/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/11/01**

| Sample No. | 05877 | | 05878 | | 05879 | | 05880 | | 05901 | | 05902 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7200 | | 6825 | | 7230 | | 7245 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.39 | U | 1.47 | U | 1.38 | U | 1.38 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 19858

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/06/01**

| Sample No. | WG-6343-1P | | 11371 | | 11372 | | 11373 | | 11374 | | 11375 | | 11376 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 7455 | | 7455 | | 7425 | | 7455 | | 7455 | | 7500 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of MoCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of DiCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of TrCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of TeCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of PeCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of HxCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of HpCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of OcCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Sum of NoCBs | U | 10.0 | U | 1.34 | U | 1.34 | U | 1.35 | U | 1.34 | U | 1.34 | U | 1.33 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04370

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 12/27/01

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/06/01**

| Sample No. | 11377 | | 11378 | | 11379 | | 11380 | | 11381 | | 11382 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7515 | | 7305 | | 7545 | | 7125 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.33 | U | 1.37 | U | 1.33 | U | 1.40 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04370

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/04/01**

| Sample No. | WG6338-1 | | | 05671 | | | 05672 | | | 05673 | | | 05674 | | | 05675 | | | 05676 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6780 | | | 7245 | | | 6960 | | | 7200 | | | 6815 | | | 7230 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0030 | U | | 0.0028 | U | | 0.0029 | U | | 0.0028 | U | | 0.0029 | U | | 0.0028 |
| 12378-PeCDD | U | 0.001 | 0.10 | U | | 0.015 | U | 0.0002 | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.015 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 |
| 123678-HxCDD | U | 0.0054 | 0.10 | U | | 0.015 | U | 0.0006 | 0.014 | U | | 0.014 | 0.0007 J | | 0.014 | U | | 0.015 | U | 0.0006 | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 |
| 1234678-HpCDD | 0.0052 J | | 0.10 | 0.0010 J | | 0.015 | 0.0009 J | | 0.014 | 0.0015 J | | 0.014 | 0.0017 J | | 0.014 | 0.0016 J | | 0.015 | 0.0014 J | | 0.014 |
| OCDD | U | 0.0354 | 0.20 | U | | 0.030 | U | | 0.028 | U | | 0.029 | U | | 0.028 | U | | 0.029 | U | | 0.028 |
| 2378-TCDF | U | | 0.020 | U | | 0.0030 | U | | 0.0028 | 0.0006J | | 0.0029 | U | 0.0006 | 0.0028 | U | 0.0005 | 0.0029 | 0.0005 J | | 0.0028 |
| 12378-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | 0.0003 | 0.014 | U | 0.0005 | 0.014 | U | | 0.015 | 0.0003 J | | 0.014 |
| 23478-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | 0.0003 | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | 0.0001 | 0.015 | U | | 0.014 | U | 0.0004 | 0.014 | U | | 0.014 | U | | 0.015 | U | 0.0004 | 0.014 |
| 123678-HxCDF | 0.0012 J | | 0.10 | U | 0.0002 | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 |
| 234678-HxCDF | U | | 0.10 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0002 | 0.015 | U | | 0.014 |
| 1234678-HpCDF | 0.0020 J | | 0.10 | U | | 0.015 | U | | 0.014 | 0.0013 J | | 0.014 | 0.0016 J | | 0.014 | 0.0016 J | | 0.015 | 0.0011 J | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.014 | U | | 0.014 | 0.0002 J | | 0.014 | U | | 0.015 | U | | 0.014 |
| OCDF | 0.0041 J | | 0.20 | U | | 0.030 | U | | 0.028 | U | | 0.029 | U | | 0.028 | U | | 0.029 | U | 0.0011 | 0.028 |
| Total TCDDs | U | | | U | | | 0.0011 | | | 0.0122 | | | 0.0121 | | | 0.0111 | | | 0.0071 | | |
| Total PeCDDs | 0.0002 | | | U | | | U | | | 0.0056 | | | 0.0056 | | | 0.0038 | | | 0.0042 | | |
| Total HxCDDs | U | | | U | | | U | | | 0.0045 | | | 0.0020 | | | 0.0045 | | | 0.0053 | | |
| Total HpCDDs | 0.0052 | | | 0.0010 | | | 0.0009 | | | 0.0015 | | | 0.0031 | | | 0.0033 | | | 0.0027 | | |
| Total TCDFs | U | | | U | | | U | | | 0.0084 | | | 0.0126 | | | 0.0058 | | | 0.0038 | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0015 | | | 0.0050 | | | U | | | U | | |
| Total HxCDFs | 0.0012 | | | U | | | U | | | 0.0013 | | | 0.0018 | | | 0.0019 | | | 0.0009 | | |
| Total HpCDFs | 0.0020 | | | U | | | U | | | 0.0016 | | | 0.0020 | | | 0.0016 | | | 0.0015 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0002 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0001 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0022 | | | 0.0003 | | | 0.0003 | | | 0.0007 | | | 0.0008 | | | 0.0007 | | | 0.0005 | | |

COC# 04885
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 12/27/01

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

12-04-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/04/01**

| Sample No. | 05677 | | | 05678 | | | 05679 | | | 05680 | | | 05711 | | | 05712 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7245 | | | 7260 | | | 7808 | | | 6860 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.0026 | U | | 0.0026 | U | | 0.0029 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.10 | 0.0009 | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | 0.0004 | 0.014 | U | 0.0005 | 0.013 | 0.0005 J | | 0.015 | 0.0046 J | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.014 | 0.0005 J | | 0.013 | U | | 0.015 | U | 0.0020 | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0010 J | | 0.014 | U | 0.0009 | 0.014 | 0.0009 J | | 0.013 | 0.0009 J | | 0.015 | U | 0.0062 | 0.10 | U | 0.0044 | 0.10 |
| OCDD | U | | 0.028 | U | | 0.028 | U | | 0.026 | U | | 0.029 | U | 0.0267 | 0.20 | 0.0258 J | | 0.20 |
| 2378-TCDF | U | | 0.0028 | U | | 0.0028 | U | | 0.0026 | U | | 0.0029 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.013 | U | 0.0003 | 0.015 | 0.0014 J | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.10 | 0.0009 J | | 0.10 |
| 123678-HxCDF | U | 0.0003 | 0.014 | U | 0.0001 | 0.014 | U | 0.0003 | 0.013 | U | 0.0004 | 0.015 | U | 0.0018 | 0.10 | 0.0010 J | | 0.10 |
| 234678-HxCDF | U | 0.0002 | 0.014 | U | 0.0001 | 0.014 | U | 0.0002 | 0.013 | U | 0.0003 | 0.015 | 0.0012 J | | 0.10 | U | 0.0008 | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.014 | 0.0002 J | | 0.013 | 0.0002 J | | 0.015 | U | 0.0018 | 0.10 | U | 0.0010 | 0.10 |
| 1234678-HpCDF | 0.0005 J | | 0.014 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.10 | 0.0016 J | | 0.10 |
| 1234789-HpCDF | U | 0.0002 | 0.014 | U | | 0.014 | 0.0002 J | | 0.013 | 0.0002 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.028 | U | | 0.028 | U | 0.0010 | 0.026 | U | | 0.029 | U | | 0.20 | 0.0037 J | | 0.20 |
| Total TCDDs | 0.0037 | | | 0.0009 | | | 0.0007 | | | 0.0008 | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0003 | | | U | | | 0.0009 | | |
| Total HxCDDs | 0.0008 | | | U | | | 0.0005 | | | 0.0008 | | | 0.0046 | | | U | | |
| Total HpCDDs | 0.0010 | | | 0.0005 | | | 0.0009 | | | 0.0014 | | | 0.0018 | | | U | | |
| Total TCDFs | 0.0015 | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | 0.0003 | | | U | | | 0.0014 | | | U | | |
| Total HxCDFs | 0.0002 | | | U | | | 0.0004 | | | 0.0002 | | | 0.0012 | | | 0.0018 | | |
| Total HpCDFs | 0.0006 | | | U | | | 0.0002 | | | 0.0002 | | | U | | | 0.0016 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0013 | | | 0.0007 | | |
| TEQ (ND=1/2) | 0.0003 | | | 0.0002 | | | 0.0002 | | | 0.0003 | | | 0.0028 | | | 0.0018 | | |

COC# 04885

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 05963 | | 05964 | | 05931 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4560 | |
| Date Collected | | - | | - | | - | | 12/19/01 | | 12/19/01 | | 12/19/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.40 | 0.27 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.059 | 0.027 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Calcium | ICAP | 3.3 | 2.5 | 4.3 | 2.5 | 4.2 | 2.5 | U | 2.5 | U | 2.5 | 2.8 | 0.55 |
| Chromium | ICAP | 0.75 | 0.13 | 0.82 | 0.13 | 0.80 | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.055 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.058 | 0.055 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.3 | 0.14 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.032 | 0.011 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.7 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.055 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 11 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.7 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.055 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.10 | 0.055 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (Cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 05932 | | 05933 | | 05934 | | 05935 | | 05936 | | 05937 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C-LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4183 | | 4650 | | 4870 | | 4520 | | 4180 | | 4970 | |
| Date Collected | | 12/19/01 | | 12/19/01 | | 12/19/01 | | 12/19/01 | | 12/19/01 | | 12/19/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.53 | 0.30 | 1.1 | 0.27 | 2.3 | 0.26 | 15 | 0.28 | 0.84 | 0.30 | U | 0.25 |
| Antimony | AA-Fur | U | 0.012 | 0.019 | 0.011 | 0.024 | 0.01 | 0.18 | 0.011 | 0.016 | 0.012 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.012 | 0.014 | 0.011 | 0.012 | 0.01 | 0.047 | 0.011 | U | 0.012 | U | 0.01 |
| Barium | ICAP | 0.063 | 0.03 | 0.061 | 0.027 | 0.076 | 0.026 | 0.56 | 0.028 | 0.09 | 0.03 | U | 0.025 |
| Beryllium | ICAP | U | 0.012 | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.012 | U | 0.01 |
| Cadmium | ICAP | U | 0.03 | U | 0.027 | U | 0.026 | U | 0.028 | U | 0.03 | U | 0.025 |
| Calcium | ICAP | 2.5 | 0.60 | 9.3 | 0.54 | 20 | 0.51 | 170 | 0.55 | 7.0 | 0.60 | U | 0.50 |
| Chromium | ICAP | U | 0.03 | 0.05 | 0.027 | U | 0.026 | 0.089 | 0.028 | U | 0.03 | U | 0.025 |
| Cobalt | ICAP | U | 0.06 | U | 0.054 | U | 0.051 | U | 0.055 | U | 0.06 | U | 0.05 |
| Copper | ICAP | 0.078 | 0.06 | 0.18 | 0.054 | 0.26 | 0.051 | 1.3 | 0.055 | 0.13 | 0.06 | U | 0.05 |
| Iron | ICAP | 1.4 | 0.15 | 12 | 0.13 | 15 | 0.13 | 64 | 0.14 | 9.7 | 0.15 | U | 0.13 |
| Lead | AA-Fur | 0.024 | 0.012 | 0.12 | 0.011 | 0.12 | 0.01 | 0.57 | 0.011 | 0.048 | 0.012 | U | 0.01 |
| Magnesium | ICAP | U | 3.0 | U | 2.7 | U | 2.6 | 20 | 2.8 | U | 3.0 | U | 2.5 |
| Manganese | ICAP | U | 0.03 | 0.18 | 0.027 | 0.24 | 0.026 | 0.96 | 0.028 | 0.15 | 0.03 | U | 0.025 |
| Nickel | ICAP | U | 0.06 | U | 0.054 | U | 0.051 | 0.13 | 0.055 | U | 0.06 | U | 0.05 |
| Potassium | ICAP | U | 12 | U | 11 | U | 10 | U | 11 | U | 12 | U | 10 |
| Selenium | AA-Fur | U | 0.012 | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.012 | U | 0.01 |
| Silver | ICAP | U | 0.03 | U | 0.027 | U | 0.026 | U | 0.028 | U | 0.03 | U | 0.025 |
| Sodium | ICAP | U | 3.0 | U | 2.7 | U | 2.6 | 5.4 | 2.8 | U | 3.0 | U | 2.5 |
| Thallium | AA-Fur | U | 0.012 | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.012 | U | 0.01 |
| Vanadium | ICAP | U | 0.06 | U | 0.054 | U | 0.051 | 0.093 | 0.055 | U | 0.06 | U | 0.05 |
| Zinc | ICAP | 0.11 | 0.06 | 0.50 | 0.054 | 0.99 | 0.051 | 5.2 | 0.055 | 0.42 | 0.06 | U | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (Cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 05938 | | 05939 | | 05940 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END AVE | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4700 | | 4850 | | 5090 | |
| Date Collected | | 12/19/01 | | 12/19/01 | | 12/19/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.1 | 0.27 | 0.66 | 0.26 | 0.49 | 0.25 |
| Antimony | AA-Fur | U | 0.011 | U | 0.01 | U | 0.0098 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.01 | U | 0.0098 |
| Barium | ICAP | 0.059 | 0.027 | 0.058 | 0.026 | 0.048 | 0.025 |
| Beryllium | ICAP | U | 0.011 | U | 0.01 | U | 0.0098 |
| Cadmium | ICAP | U | 0.027 | U | 0.026 | U | 0.025 |
| Calcium | ICAP | 4.2 | 0.53 | 3.2 | 0.52 | 3.5 | 0.49 |
| Chromium | ICAP | U | 0.027 | U | 0.026 | 0.039 | 0.025 |
| Cobalt | ICAP | U | 0.053 | U | 0.052 | U | 0.049 |
| Copper | ICAP | 0.071 | 0.053 | 0.062 | 0.052 | 0.056 | 0.049 |
| Iron | ICAP | 2.3 | 0.13 | 2.3 | 0.13 | 1.4 | 0.12 |
| Lead | AA-Fur | 0.026 | 0.011 | 0.024 | 0.01 | 0.022 | 0.0098 |
| Magnesium | ICAP | U | 2.7 | U | 2.6 | U | 2.5 |
| Manganese | ICAP | 0.036 | 0.027 | 0.035 | 0.026 | 0.026 | 0.025 |
| Nickel | ICAP | U | 0.053 | U | 0.052 | U | 0.049 |
| Potassium | ICAP | U | 11 | U | 10 | U | 9.8 |
| Selenium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.0098 |
| Silver | ICAP | U | 0.027 | U | 0.026 | U | 0.025 |
| Sodium | ICAP | U | 2.7 | 3.4 | 2.6 | U | 2.5 |
| Thallium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.0098 |
| Vanadium | ICAP | U | 0.053 | U | 0.052 | U | 0.049 |
| Zinc | ICAP | 0.11 | 0.053 | 0.10 | 0.052 | 0.094 | 0.049 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0034 | | WTC-0035 | | WTC-0029 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | O-17 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4980 | |
| Date Collected | | - | | - | | - | | 12/19/01 | | 12/19/01 | | 12/19/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.56 | 0.25 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | 0.037 | 0.025 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Calcium | ICAP | 6.9 | 2.5 | 7 | 2.5 | 7.1 | 2.5 | U | 2.5 | U | 2.5 | 3.5 | 0.50 |
| Chromium | ICAP | 0.88 | 0.13 | 0.77 | 0.13 | 0.7 | 0.13 | 0.17 | 0.13 | U | 0.13 | U | 0.025 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.2 | 0.13 |
| Lead | AA-Fur | U | 0.05 | 0.097 | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.036 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.5 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Sodium | ICAP | 20 | 13 | 20 | 13 | 21 | 13 | U | 13 | U | 13 | U | 2.5 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Zinc | ICAP | 0.26 | 0.25 | 0.42 | 0.25 | 0.48 | 0.25 | U | 0.25 | U | 0.25 | 0.082 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | WTC-0030 | | WTC-0031 | | WTC-0032 | | WTC-0033 | | WTC-0041 | | WTC-0042 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | O-18 | | O-19 | | P-5 | | P-8 | | Field Blank | | Lot Blank | |
| Air Volume (L) | | 4,949.5 | | 4,740.5 | | 6,004.0 | | 6,380.0 | | 0.0 | | 0.0 | |
| Date Collected | | 12/19/01 | | 12/19/01 | | 12/19/01 | | 12/19/01 | | 12/21/01 | | 12/21/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter |
| Aluminum | ICAP | 0.66 | 0.25 | U | 0.26 | 0.40 | 0.21 | 0.48 | 0.20 | 1.7 | 1.3 | 3.3 | 1.3 |
| Antimony | AA-Fur | U | 0.01 | U | 0.011 | U | 0.0083 | U | 0.0078 | U | 0.05 | U | 0.05 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.011 | U | 0.0083 | U | 0.0078 | U | 0.05 | U | 0.05 |
| Barium | ICAP | 0.077 | 0.025 | U | 0.026 | U | 0.021 | U | 0.02 | U | 0.13 | U | 0.13 |
| Beryllium | ICAP | U | 0.01 | U | 0.011 | U | 0.0083 | U | 0.0078 | U | 0.05 | U | 0.05 |
| Cadmium | ICAP | U | 0.025 | U | 0.026 | U | 0.021 | U | 0.02 | U | 0.13 | U | 0.13 |
| Calcium | ICAP | 2.4 | 0.51 | 0.61 | 0.53 | 2.5 | 0.42 | U | 0.39 | U | 2.5 | U | 2.5 |
| Chromium | ICAP | U | 0.025 | U | 0.026 | 0.039 | 0.021 | U | 0.02 | U | 0.13 | 0.26 | 0.13 |
| Cobalt | ICAP | U | 0.051 | U | 0.053 | U | 0.042 | U | 0.039 | U | 0.25 | U | 0.25 |
| Copper | ICAP | 0.051 | 0.051 | U | 0.053 | U | 0.042 | U | 0.039 | U | 0.25 | U | 0.25 |
| Iron | ICAP | 1.9 | 0.13 | 0.54 | 0.13 | 0.67 | 0.10 | 0.28 | 0.098 | U | 0.63 | U | 0.63 |
| Lead | AA-Fur | 0.027 | 0.01 | U | 0.011 | 0.015 | 0.0083 | 0.029 | 0.0078 | U | 0.05 | U | 0.05 |
| Magnesium | ICAP | U | 2.5 | U | 2.6 | U | 2.1 | U | 2.0 | U | 13 | U | 13 |
| Manganese | ICAP | 0.032 | 0.025 | U | 0.026 | U | 0.021 | U | 0.02 | U | 0.13 | U | 0.13 |
| Nickel | ICAP | U | 0.051 | U | 0.053 | U | 0.042 | U | 0.039 | U | 0.25 | U | 0.25 |
| Potassium | ICAP | U | 10 | U | 11 | U | 8.3 | U | 7.8 | U | 50 | U | 50 |
| Selenium | AA-Fur | U | 0.01 | U | 0.011 | U | 0.0083 | U | 0.0078 | U | 0.05 | U | 0.05 |
| Silver | ICAP | U | 0.025 | U | 0.026 | U | 0.021 | U | 0.02 | U | 0.13 | U | 0.13 |
| Sodium | ICAP | U | 2.5 | U | 2.6 | U | 2.1 | U | 2.0 | U | 13 | U | 13 |
| Thallium | AA-Fur | U | 0.01 | U | 0.011 | U | 0.0083 | U | 0.0078 | U | 0.05 | U | 0.05 |
| Vanadium | ICAP | U | 0.051 | U | 0.053 | U | 0.042 | U | 0.039 | U | 0.25 | U | 0.25 |
| Zinc | ICAP | 0.084 | 0.051 | U | 0.053 | U | 0.042 | 0.053 | 0.039 | U | 0.25 | U | 0.25 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 WTC Landfill site

| Client ID | | WTC-0036 | | WTC-0037 | | WTC-0038 | | WTC-0039 | | WTC-0040 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | O-17 | | O-18 | | O-19 | | P-5 | | P-8 | |
| Air Volume (L) | | 4470.0 | | 4940.0 | | 4607.5 | | 1999.0 | | 3820.0 | |
| Date Collected | | 12/21/01 | | 12/21/01 | | 12/21/01 | | 12/21/01 | | 12/21/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.63 | 0.28 | 0.43 | 0.25 | U | 0.27 | U | 0.63 | 3.0 | 0.33 |
| Antimony | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.025 | 0.013 | 0.013 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.025 | 0.017 | 0.013 |
| Barium | ICAP | U | 0.028 | 0.038 | 0.025 | U | 0.027 | U | 0.063 | 0.051 | 0.033 |
| Beryllium | ICAP | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.025 | U | 0.013 |
| Cadmium | ICAP | U | 0.028 | U | 0.025 | U | 0.027 | U | 0.063 | U | 0.033 |
| Calcium | ICAP | 5.7 | 0.56 | 1.4 | 0.51 | U | 0.54 | 2.1 | 1.3 | 35 | 0.65 |
| Chromium | ICAP | U | 0.028 | U | 0.025 | U | 0.027 | 0.47 | 0.063 | 0.10 | 0.033 |
| Cobalt | ICAP | U | 0.056 | U | 0.051 | U | 0.054 | U | 0.13 | U | 0.065 |
| Copper | ICAP | U | 0.056 | 0.098 | 0.051 | U | 0.054 | U | 0.13 | 0.34 | 0.065 |
| Iron | ICAP | 1.5 | 0.14 | 1.1 | 0.13 | 0.36 | 0.14 | U | 0.31 | 8.9 | 0.16 |
| Lead | AA-Fur | 0.03 | 0.011 | 0.012 | 0.01 | U | 0.011 | U | 0.025 | 0.29 | 0.013 |
| Magnesium | ICAP | U | 2.8 | U | 2.5 | U | 2.7 | U | 6.3 | 3.3 | 3.3 |
| Manganese | ICAP | U | 0.028 | U | 0.025 | U | 0.027 | U | 0.063 | 0.15 | 0.033 |
| Nickel | ICAP | U | 0.056 | U | 0.051 | U | 0.054 | U | 0.13 | U | 0.065 |
| Potassium | ICAP | U | 11 | U | 10 | U | 11 | U | 25 | U | 13 |
| Selenium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.025 | U | 0.013 |
| Silver | ICAP | U | 0.028 | U | 0.025 | U | 0.027 | U | 0.063 | U | 0.033 |
| Sodium | ICAP | U | 2.8 | U | 2.5 | U | 2.7 | U | 6.3 | U | 3.3 |
| Thallium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.025 | U | 0.013 |
| Vanadium | ICAP | U | 0.056 | U | 0.051 | U | 0.054 | U | 0.13 | U | 0.065 |
| Zinc | ICAP | 0.094 | 0.056 | U | 0.051 | U | 0.054 | U | 0.13 | 0.61 | 0.065 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/06/01**

| Sample No. | WG6343-1 | | | 11371 | | | 11372 | | | 11373 | | | 11374 | | | 11375 | | | 11376 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7455 | | | 7455 | | | 7425 | | | 7455 | | | 7455 | | | 7500 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | 0.0010 J | | 0.013 | U | | 0.013 | U | 0.0005 | 0.013 | U | | 0.013 | U | | 0.013 | U | 0.0003 | 0.013 |
| 123478-HxCDD | U | 0.0014 | 0.10 | U | 0.0008 | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | 0.0003 | 0.013 |
| 123578-HxCDD | U | 0.0028 | 0.10 | U | | 0.013 | U | | 0.013 | U | 0.0008 | 0.013 | U | 0.0006 | 0.013 | U | 0.0004 | 0.013 | U | | 0.013 |
| 123678-HxCDD | U | 0.0017 | 0.10 | 0.0014 J | | 0.013 | U | 0.0005 | 0.013 | U | 0.0004 | 0.013 | U | 0.0002 | 0.013 | U | | 0.013 | U | 0.0004 | 0.013 |
| 1234678-HpCDD | 0.0056 J | | 0.10 | 0.0067 J | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| OCDD | 0.0310 J | | 0.20 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 |
| 2378-TCDF | U | 0.0005 | 0.020 | U | | 0.0027 | U | | 0.0027 | 0.0025 J | | 0.0027 | 0.0019 J | | 0.0027 | U | | 0.0027 | U | | 0.0027 |
| 12378-PeCDF | 0.0006 J | | 0.10 | U | | 0.013 | U | | 0.013 | 0.0007 J | | 0.013 | 0.0003 J | | 0.013 | 0.0002 J | | 0.013 | 0.0003 J | | 0.013 |
| 23478-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | 0.0023 J | | 0.013 | 0.0009 J | | 0.013 | 0.0002 J | | 0.013 | 0.0003 J | | 0.013 |
| 123478-HxCDF | U | 0.0016 | 0.10 | U | | 0.013 | U | | 0.013 | U | 0.0009 | 0.013 | U | 0.0004 | 0.013 | U | 0.0002 | 0.013 | U | 0.0002 | 0.013 |
| 123678-HxCDF | U | 0.0016 | 0.10 | U | | 0.013 | U | | 0.013 | 0.0006 J | | 0.013 | U | 0.0004 | 0.013 | U | 0.0002 | 0.013 | 0.0003 J | | 0.013 |
| 234678-HxCDF | 0.0015 J | | 0.10 | U | | 0.013 | U | | 0.013 | 0.0008 J | | 0.013 | U | 0.0004 | 0.013 | U | 0.0001 | 0.013 | U | | 0.013 |
| 123789-HxCDF | 0.0021 J | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | 0.0002 | 0.013 |
| 1234678-HpCDF | U | 0.0027 | 0.10 | U | 0.0006 | 0.013 | U | | 0.013 | 0.0011 J | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | 0.0003 | 0.013 |
| OCDF | 0.0052 J | | 0.20 | 0.0009 J | | 0.027 | U | | 0.027 | U | 0.0010 | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | 0.0091 | | | 0.0084 | | | 0.0078 | | | 0.0027 | | |
| Total PeCDDs | U | | | 0.0036 | | | 0.0003 | | | 0.0036 | | | 0.0021 | | | 0.0025 | | | 0.0011 | | |
| Total HxCDDs | U | | | 0.0097 | | | 0.0035 | | | 0.0037 | | | 0.0018 | | | 0.0018 | | | 0.0011 | | |
| Total HpCDDs | 0.0066 | | | 0.0130 | | | 0.0063 | | | 0.0028 | | | 0.0021 | | | 0.0020 | | | 0.0021 | | |
| Total TCDFs | 0.0002 | | | U | | | U | | | 0.0140 | | | 0.0057 | | | 0.0031 | | | 0.0006 | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0119 | | | 0.0035 | | | 0.0019 | | | 0.0006 | | |
| Total HxCDFs | 0.0021 | | | 0.0003 | | | U | | | 0.0044 | | | 0.0016 | | | 0.0004 | | | 0.0006 | | |
| Total HpCDFs | U | | | U | | | 0.0006 | | | 0.0011 | | | 0.0007 | | | 0.0007 | | | 0.0005 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0005 | | | 0.0007 | | | 0.0000 | | | 0.0016 | | | 0.0005 | | | 0.0001 | | | 0.0002 | | |
| TEQ (ND=1/2) | 0.0012 | | | 0.0011 | | | 0.0004 | | | 0.0017 | | | 0.0005 | | | 0.0002 | | | 0.0004 | | |

COC# 04370
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/2/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

12-06-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/06/01**

| Sample No. | 11377 | | | 11378 | | | 11379 | | | 11380 | | | 11381 | | | 11382 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7515 | | | 7305 | | | 7545 | | | 7125 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | 0.0001 | 0.014 | 0.0005 J | | 0.10 | U | 0.0008 | 0.10 |
| 123478-HxCDD | U | 0.0002 | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | 0.0004 | 0.013 | U | 0.0006 | 0.014 | U | 0.0005 | 0.013 | U | 0.0004 | 0.014 | U | 0.0034 | 0.10 | 0.0029 J | | 0.10 |
| 123789-HxCDD | U | 0.0002 | 0.013 | U | 0.0003 | 0.014 | U | | 0.013 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | 0.0055 | 0.10 | 0.0070 J | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.028 | U | | 0.20 | 0.0366 J | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | 0.0006 | 0.10 |
| 123478-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | 0.0003 | 0.10 |
| 123678-HxCDF | U | 0.0002 | 0.013 | U | | 0.014 | U | | 0.013 | 0.0001 J | | 0.014 | U | | 0.10 | U | 0.0006 | 0.10 |
| 234678-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | 0.0003 | 0.10 |
| 123789-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.013 | U | | 0.014 | U | 0.0006 | 0.013 | U | | 0.014 | U | 0.0014 | 0.10 | 0.0014 J | | 0.10 |
| 1234789-HpCDF | U | | 0.013 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | 0.0009 | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.028 | 0.0033 J | | 0.20 | U | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| Total TCDDs | 0.0021 | | | U | | | 0.0004 | | | 0.0009 | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | 0.0014 | | | U | | |
| Total HxCDDs | U | | | 0.0006 | | | 0.0002 | | | U | | | 0.0010 | | | 0.0029 | | |
| Total HpCDDs | 0.0025 | | | 0.0024 | | | 0.0018 | | | 0.0010 | | | U | | | 0.0113 | | |
| | | | | | | | | | | | | | | | | | | |
| Total TCDFs | 0.0016 | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0003 | | | 0.0004 | | | U | | | U | | |
| Total HpCDFs | 0.0005 | | | 0.0004 | | | U | | | 0.0003 | | | U | | | 0.0021 | | |
| | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0003 | | | 0.0004 | | |
| TEQ (ND=1/2) | 0.0001 | | | 0.0001 | | | 0.0001 | | | 0.0001 | | | 0.0006 | | | 0.0009 | | |

COC# 04370

12-06-01dioair.xls

Table 1.1 Results of the Analysis for VOC in Air (Summa)
WA # 0-706 NYC-WTC

| Sampling Date | | 12/10/01 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Method Blank #1 | | 2-0072 | | 2-0169 | | Method Blank #2 | | 2-0190 | | 2-0203 | | 2-0224 | |
| Sample Location | 12/13/01 | | Location R | | South Tower South Side | | 09/14/01 | | Austin Tobin Plaza | | SW Side of South Tower | | NW Side of North Tower | |
| Dilution Factor | 1.0 | | 1.34 | | 1.3 | | 1.0 | | 1.3 | | 1.3 | | 1.32 | |
| | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Freon 12 | U | 0.50 | 0.67 | 0.67 | 0.7 | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Freon 114 | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Chloromethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.63 | U | 0.65 | U | 0.66 |
| Vinyl Chloride | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.63 | U | 0.65 | U | 0.66 |
| Bromomethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Chloroethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.63 | U | 0.65 | U | 0.66 |
| Freon 11 | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | 0.68 | 0.65 | U | 0.65 | U | 0.66 |
| 1,1-Dichloroethene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Freon 113 | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Methylene Chloride | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,1-Dichloroethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| cis-1,2-Dichloroethene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Chloroform | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,1,1-Trichloroethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Carbon Tetrachloride | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Benzene | U | 0.50 | 0.71 | 0.67 | 1.3 | 0.65 | U | 0.50 | 1.2 | 0.65 | 2.2 | 0.65 | 1.3 | 0.66 |
| 1,2-Dichloroethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Trichloroethene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,2-Dichloropropane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| cis-1,3-Dichloropropene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Toluene | U | 0.50 | 1.7 | 0.67 | 3.0 | 0.65 | U | 0.50 | 2.3 | 0.65 | 3.6 | 0.65 | 4.1 | 0.66 |
| trans-1,3-Dichloropropene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,1,2-Trichloroethane | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Tetrachloroethene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Ethylene Dibromide | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Chlorobenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Ethyl Benzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| m,p-Xylene | U | 0.50 | 0.77 | 0.67 | 1.4 | 0.65 | U | 0.50 | 1.2 | 0.65 | 1.9 | 0.65 | 1.4 | 0.66 |
| o-Xylene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | 0.75 | 0.65 | U | 0.66 |
| Styrene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,1,2,2-Tetrachloroethane | U | 0.50 | 1.9 | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,3,5-Trimethylbenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,2,4-Trimethylbenzene | U | 0.50 | U | 0.67 | 0.64 J | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,3-Dichlorobenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,4-Dichlorobenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Chlorotoluene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,2-Dichlorobenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| 1,2,4-Trichlorobenzene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Hexachlorobutadiene | U | 0.50 | U | 0.67 | U | 0.65 | U | 0.50 | U | 0.65 | U | 0.65 | U | 0.66 |
| Propylene | U | 2.0 | U | 2.7 | 4.6 | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 1,3-Butadiene | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Acetone | U | 2.0 | 4.4 | 2.7 | 4.3 | 2.6 | U | 2.0 | 6.1 | 2.6 | 4.6 | 2.6 | 12 | 2.6 |
| Carbon Disulfide | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 2-Propanol | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| trans-1,2-Dichloroethene | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Vinyl Acetate | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 2-Butanone (Methyl Ethyl Ketone) | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Hexane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Tetrahydrofuran | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Cyclohexane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 1,4-Dioxane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Bromodichloromethane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 4-Methyl-2-pentanone | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 2-Hexanone | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Dibromochloromethane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Bromoform | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| 4-Ethyltoluene | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Ethanol | U | 2.0 | 4.8 J | 2.7 | 6.9 J | 2.6 | U | 2.0 | 7.0 J | 2.6 | 5.3 J | 2.6 | 5.7 J | 2.6 |
| Methyl tert-Butyl Ether | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |
| Heptane | U | 2.0 | U | 2.7 | U | 2.6 | U | 2.0 | U | 2.6 | U | 2.6 | U | 2.6 |

U denotes less than the MDL (not detected)
J denotes value is below the detection limit and is estimated.

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/19/01**

| Sample No. | WG-7013-1P | | 05921 | | 05922 | | 05923 | | 05924 | | 05925 | | 05926 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 7200 | | 6915 | | 7275 | | 7365 | | 7320 | | 6465 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of MoCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of DiCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of TrCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of TeCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of PeCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of HxCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of HpCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of OcCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Sum of NoCBs | U | 10.0 | U | 1.39 | U | 1.45 | U | 1.37 | U | 1.36 | U | 1.37 | U | 1.55 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04884

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/04/02

12-19-01PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/19/01**

| Sample No. | 05927 | | 05928 | | 05929 | | 05930 | | 05961 | | 05962 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6535 | | 7515 | | 7560 | | 6495 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | 2.16 | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.53 | U | 1.33 | U | 1.32 | U | 1.54 | U | 10.0 | U | 10.0 |
| Total | 2.16 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04884

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/19/01 0750 to 1538**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 12/19/01 | 05953 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05954 | 3B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05955 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05956 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05957 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05960 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05958 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05959 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05951 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/19/01 | 05952 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04378

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

NS: Not sampled

ERT 1/04/02

**NIOSH 7500: Silica crystalline by XRD**

FL-12-19-01silica.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/11/01**

| Sample No. | WG6353-1 | | | 05871 | | | 05872 | | | 05873 | | | 05874 | | | 05875 | | | 05876 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6600 | | | 6825 | | | 6765 | | | 7200 | | | 7200 | | | 7200 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0030 | U | | 0.0029 | U | | 0.0030 | U | | 0.0028 | U | | 0.0028 | U | | 0.0028 |
| 12378-PeCDD | 0.0006 J | | 0.10 | U | | 0.015 | 0.0006 J | | 0.015 | U | | 0.015 | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.015 | U | 0.0002 | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDD | 0.0034 J | | 0.10 | U | 0.0005 | 0.015 | U | | 0.015 | U | 0.0006 | 0.015 | U | 0.0004 | 0.014 | U | 0.0004 | 0.014 | U | 0.0004 | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.015 | 0.0008 J | | 0.015 | U | | 0.015 | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.014 |
| 1234678-HpCDD | U | 0.0051 | 0.10 | U | | 0.015 | 0.0027 J | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| OCDD | 0.0246 J | | 0.20 | U | | 0.030 | U | | 0.029 | U | | 0.030 | U | | 0.028 | U | | 0.028 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | | 0.0030 | U | | 0.0029 | U | | 0.0030 | 0.0002 J | | 0.0028 | 0.0002 J | | 0.0028 | U | | 0.0028 |
| 12378-PeCDF | U | 0.0004 | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.015 | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 | U | 0.0002 | 0.014 |
| 23478-PeCDF | U | 0.0006 | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.015 | 0.0001 J | | 0.014 | 0.0002 J | | 0.014 | U | 0.0002 | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | 0.0002 | 0.015 | U | | 0.015 | U | 0.0001 | 0.015 | U | 0.0001 | 0.014 | U | 0.0002 | 0.014 | U | 0.0003 | 0.014 |
| 123678-HxCDF | U | | 0.10 | U | 0.0002 | 0.015 | U | | 0.015 | 0.0001 J | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.014 |
| 234678-HxCDF | U | | 0.10 | U | 0.0001 | 0.015 | U | | 0.015 | U | | 0.015 | 0.0001 J | | 0.014 | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.015 | 0.0001 J | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | 0.0003 | 0.015 | U | 0.0005 | 0.014 | 0.0006 J | | 0.014 | U | 0.0007 | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.015 | 0.0001 J | | 0.015 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.014 |
| OCDF | U | 0.0014 | 0.20 | U | | 0.030 | U | | 0.029 | U | 0.0004 | 0.030 | U | 0.0007 | 0.028 | 0.0005 J | | 0.028 | U | 0.0006 | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | U | | | 0.0017 | | | 0.0014 | | | 0.0012 | | | 0.0022 | | | 0.0022 | | |
| Total PeCDDs | 0.0006 | | | U | | | 0.0034 | | | 0.0007 | | | 0.0007 | | | 0.0011 | | | 0.0006 | | |
| Total HxCDDs | 0.0044 | | | U | | | 0.0057 | | | 0.0003 | | | 0.0006 | | | 0.0009 | | | 0.0003 | | |
| Total HpCDDs | 0.0024 | | | 0.0017 | | | 0.0050 | | | 0.0010 | | | 0.0015 | | | 0.0009 | | | 0.0014 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | U | | | 0.0009 | | | 0.0014 | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | 0.0007 | | | 0.0004 | | | U | | |
| Total HxCDFs | U | | | 0.0003 | | | U | | | 0.0001 | | | 0.0005 | | | 0.0005 | | | 0.0003 | | |
| Total HpCDFs | 0.0010 | | | 0.0008 | | | 0.0009 | | | U | | | U | | | 0.0006 | | | 0.0002 | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0006 | | | 0.0000 | | | 0.0004 | | | 0.0000 | | | 0.0001 | | | 0.0001 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0012 | | | 0.0001 | | | 0.0005 | | | 0.0001 | | | 0.0002 | | | 0.0002 | | | 0.0001 | | |

COC# 19658
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/4/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

12-11-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/11/01**

| Sample No. | 05877 | | | 05878 | | | 05879 | | | 05880 | | | 05901 | | | 05902 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7200 | | | 6825 | | | 7230 | | | 7245 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.0029 | U | | 0.0028 | U | | 0.0029 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.015 | U | 0.0001 | 0.014 | 0.0002 J | | 0.014 | U | 0.0004 | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | 0.0006 | 0.014 | U | | 0.015 | U | 0.0006 | 0.014 | U | | 0.014 | U | 0.0033 | 0.10 | 0.0023 J | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | 0.0005 J | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | 0.0042 | 0.10 | 0.0033 J | | 0.10 |
| OCDD | U | | 0.028 | U | | 0.029 | U | | 0.028 | U | | 0.028 | U | | 0.20 | 0.0187 J | | 0.20 |
| 2378-TCDF | U | | 0.0028 | U | | 0.0029 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | 0.0003 | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.10 | U | | 0.10 |
| 23478-PeCDF | 0.0003 J | | 0.014 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | 0.0004 | 0.014 | U | 0.0001 | 0.015 | U | 0.0001 | 0.014 | U | 0.0001 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | 0.0003 J | | 0.014 | U | 0.0001 | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | 0.0004 J | | 0.10 |
| 234678-HxCDF | 0.0004 J | | 0.014 | U | 0.0001 | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0016 J | | 0.014 | U | 0.0004 | 0.015 | U | | 0.014 | U | | 0.014 | 0.0008 J | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | 0.0003 | 0.014 | U | | 0.015 | U | 0.0001 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | 0.0014 J | | 0.028 | U | | 0.029 | U | 0.0004 | 0.028 | U | 0.0005 | 0.028 | U | | 0.20 | 0.0014 J | | 0.20 |
| Total TCDDs | 0.0031 | | | 0.0008 | | | 0.0004 | | | 0.0008 | | | U | | | U | | |
| Total PeCDDs | 0.0022 | | | U | | | 0.0002 | | | 0.0010 | | | 0.0014 | | | U | | |
| Total HxCDDs | 0.0020 | | | 0.0012 | | | 0.0003 | | | 0.0011 | | | 0.0010 | | | 0.0038 | | |
| Total HpCDDs | 0.0012 | | | 0.0009 | | | 0.0009 | | | 0.0016 | | | U | | | 0.0045 | | |
| Total TCDFs | 0.0047 | | | 0.0002 | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0016 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0016 | | | 0.0002 | | | 0.0002 | | | 0.0001 | | | U | | | 0.0004 | | |
| Total HpCDFs | 0.0019 | | | U | | | 0.0003 | | | 0.0005 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0002 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0003 | | | 0.0003 | | |
| TEQ (ND=1/2) | 0.0003 | | | 0.0001 | | | 0.0001 | | | 0.0020 | | | 0.0005 | | | 0.0008 | | |

COC# 19858

12-11-01dioair.xls

Table 1.1 Results of the Analysis for VOC in Air (Sintana)
WA # 0-236 NYC-WTC

| Sampling Date | | 12/17/01 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Method Blank #1 | | 3-0092 | | 3-0099 | | 3-0134 | | 3-0145 | | 3-0191 | | |
| Sample Location | 0112353-06A | | NW Corner | | SW Corner | | East | | South | | Location_R | | |
| Dilution Factor | 1.0 | | 1.32 | | 1.34 | | 1.32 | | 1.30 | | 1.30 | | |
| | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | |
| | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | |
| Freon 12 | U | 0.50 | 1.2 | 0.66 | 0.71 | 0.67 | 2.2 | 0.66 | 0.88 | 0.65 | 0.74 | 0.65 | |
| Freon 114 | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Chloromethane | U | 0.50 | 0.76 J | 0.66 | 1.0 J | 0.67 | 1.2 J | 0.66 | 0.82 J | 0.65 | 0.72 J | 0.65 | |
| Vinyl Chloride | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Bromomethane | U | 0.50 | U J | 0.66 | U J | 0.67 | U J | 0.66 | U J | 0.65 | U J | 0.65 | |
| Chloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Freon 11 | U | 0.50 | 1.0 | 0.66 | U | 0.67 | 0.84 | 0.66 | U | 0.65 | U | 0.65 | |
| 1,1-Dichloroethene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Freon 113 | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Methylene Chloride | U | 0.50 | 1.3 | 0.66 | 0.96 | 0.67 | 1.2 | 0.66 | 1.2 | 0.65 | 2.5 | 0.65 | |
| 1,1-Dichloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| cis-1,2-Dichloroethene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Chloroform | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,1,1-Trichloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Carbon Tetrachloride | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Benzene | U | 0.50 | 0.74 | 0.66 | 1.3 | 0.67 | 1.2 | 0.66 | 0.90 | 0.65 | 0.86 | 0.65 | |
| 1,2-Dichloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Trichloroethene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,2-Dichloropropane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| cis-1,3-Dichloropropene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Toluene | U | 0.50 | 2.6 | 0.66 | 3.6 | 0.67 | 2.6 | 0.66 | 2.7 | 0.65 | 1.5 | 0.65 | |
| trans-1,3-Dichloropropene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,1,2-Trichloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Tetrachloroethene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | 0.72 | 0.65 | |
| Ethylene Dibromide | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Chlorobenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Ethyl Benzene | U | 0.50 | U | 0.66 | 0.77 | 0.67 | 0.69 | 0.66 | U | 0.65 | U | 0.65 | |
| m,p-Xylene | U | 0.50 | 0.98 | 0.66 | 2.6 | 0.67 | 1.9 | 0.66 | 2.5 | 0.65 | 0.76 | 0.65 | |
| o-Xylene | U | 0.50 | U | 0.66 | 0.98 | 0.67 | 0.80 | 0.66 | 0.82 | 0.65 | U | 0.65 | |
| Styrene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,1,2,2-Tetrachloroethane | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,3,5-Trimethylbenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,2,4-Trimethylbenzene | U | 0.50 | U | 0.66 | 0.88 | 0.67 | 0.98 | 0.66 | U | 0.65 | U | 0.65 | |
| 1,3-Dichlorobenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,4-Dichlorobenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Chlorotoluene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,2-Dichlorobenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| 1,2,4-Trichlorobenzene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Hexachlorobutadiene | U | 0.50 | U | 0.66 | U | 0.67 | U | 0.66 | U | 0.65 | U | 0.65 | |
| Propylene | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 1,3-Butadiene | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Acetone | U | 2.0 | 4.5 | 2.6 | 4.5 | 2.7 | 5.6 | 2.6 | 4.5 | 2.6 | 4.8 | 2.6 | |
| Carbon Disulfide | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 2-Propanol | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| trans-1,2-Dichloroethene | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Vinyl Acetate | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 2-Butanone (Methyl Ethyl Ketone) | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Hexane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | 4.4 | 2.6 | U | 2.6 | |
| Tetrahydrofuran | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Cyclohexane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 1,4-Dioxane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Bromodichloromethane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 4-Methyl-2-pentanone | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 2-Hexanone | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Dibromochloromethane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Bromoform | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| 4-Ethyltoluene | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Ethanol | U | 2.0 | 5.7 | 2.6 | 4.4 | 2.7 | 6.0 | 2.6 | 7.2 | 2.6 | 4.5 | 2.6 | |
| Methyl tert-Butyl Ether | U | 2.0 | U | 2.6 | 4.5 | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |
| Heptane | U | 2.0 | U | 2.6 | U | 2.7 | U | 2.6 | U | 2.6 | U | 2.6 | |

U denotes less than the MDL (not detected)
J denotes value is below the detection limit and is estimated.

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: R&L T.

U.S. EPA: Norrell

Date: 1/10/02

RST Site Project Manager Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2607 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0736 | 0735 | 0739 | | | |
| Stop Time | 1403 | 1403 | 1407 | | | |
| Run Time (Minutes) | 387.5 | 388.5 | 388.5 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 0.0 | 0.3 ~~33.8~~ (0.0) | | | |
| Maximum Concentration (ug/m3) | 98.0 | 171.7 | 78.6 | | | |
| Average Concentration (TWA) (ug/m3) | 34.9 ~~41.8~~ | 41.6 | 33.8 | | | |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/10/02**

| File Name | NYC727 | NYC728 | NYC729 | NYC730 | NYC732 | NYC731 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07329 | A07330 | A07331 | A07332 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 690 | RL |
| Dichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 960 | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | 34 | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | 36 | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 160 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | 32 | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 37 | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | 31 | RL |
| Tetrahydrofuran | RL | RL | RL | RL | 51 | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | 32 | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 880 | RL |
| Heptane | RL | RL | RL | RL | 23 | RL |
| Trichloroethene | RL | RL | RL | RL | 47 | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 190 | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | 51 | RL |
| Ethylbenzene | RL | RL | RL | RL | 200 | RL |
| m&p Xylenes | RL | RL | RL | RL | 38 | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | 45 | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | 21 | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Early

DATE: 1/10/02 RST: B Hoffman

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0817 | ND | ND | .1 | 20.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Mi | 0823 | ND | ND | .1 | 20.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0828 | ND | ND | .1 | 20.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0840 | ND | ND | ND | 20.5 | 3 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0845 | ND | ND | ND | 20.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 0850 | ND | ND | ND | 20.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0859 | ND | ND | ND | 20.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Mc | 0909 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0916 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0928 | ND | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0936 | ND | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0944 | ND | ND | ND | 20.5 | 5 | ND | ND | ND | ND | ND | ND | ND |
| K | 0950 | ND | ND | ND | 20.5 | 4 | ND | ND | ND | ND | ND | ND | ND |
| T | 0957 | ND | ND | ND | 20.5 | 1 | ND | ND | ND | ND | ND | ND | ND |
| U | 1002 | ND | ND | ND | 20.5 | 2 | ND | ND | ND | ND | ND | ND | ND |
| V | 1007 | ND | ND | ND | 20.6 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 1016 | ND | ND | ND | 20.6 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1020 | ND | ND | ND | 20.6 | 8 | ND | ND | ND | ND | ND | ND | ND |
| E | 1030 | ND | ND | ND | 20.6 | 7 | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | |

Location A: Barklay and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location Mi: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 5 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/10/02 RST: B. Hoffman

| Location | Time | FID (units) | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1214 | † | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1215 | | ND | ND | 20.7 | 2 | ND | ND | ND | ND | ND | ND | ND |
| N | 1219 | | ND | ND | 20.8 | 5 | ND | ND | ND | ND | ND | ND | ND |
| J | 1223 | | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1226 | | ND | ND | 20.8 | 5 | ND | ND | ND | ND | ND | ND | ND |
| F | 1229 | | ND | ND | 20.7 | 3 | ND | ND | ND | ND | ND | ND | ND |
| A | 1237 | | ND | ND | 20.9 | 2 | ND | ND | ND | ND | ND | ND | ND |
| C | 1240 | | ND | ND | 20.9 | 10 | ND | ND | ND | ND | ND | ND | ND |
| B | 1244 | | ND | ND | 20.9 | 2 | ND | ND | ND | ND | ND | ND | ND |
| H | 1253 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| I | 1256 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1309 | | ND | ND | 20.9 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 1309 | | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 1314 | | ND | ND | 20.9 | 5 | ND | ND | ND | ND | ND | ND | ND |
| U | 1318 | | ND | ND | 20.9 | 4 | ND | ND | ND | ND | ND | ND | ND |
| V | 1322 | | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 1330 | | ND | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1333 | | ND | ND | 21.0 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1335 | | ND | ND | 21.0 | 2 | ND | ND | ND | ND | ND | ND | ND |

Location A: Barkley and West Broadway
Location B: Church and Dey
Location C: Liberty and Church
Location D: Albany and Greenwich
Location E: Liberty and South End
Location F: West and Vesey
Location G: No location
Location H: Chase Plaza
Location I: Wall Street and Broadway
Location J: West and Warren
Location K: Albany and West
Location L: Stuyvesant High School
Location M1: West and Warren
Location N: Pier 25 Volleyball
Location O: No location
Location P: Albany and South End
Location Q: West and Murray
Location R: No asbestos sampling
Location S: Rector and South End
Location T: Pier 6 Heliport
Location U: Pier 6 Exit 2
Location V: Pier 6 Bus Sign
Location W: No location
Location X: No location
Location Y: No location
Location Z: No location

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday - Monday, January 12 - 14, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on 1/14**

Air: **Fixed Monitors in New York:**

Asbestos - EPA analyzed 175 samples taken in and around ground zero from January 7 through January 11. EPA also sampled for asbestos at two additional lower Manhattan locations on January 7 through January 10. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,727, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Air: Fixed Monitors outside lower Manhattan:**
Asbestos - Samples were collected from additional asbestos monitors at P.S. 154: 333 East 135th St, Bronx, Intermediate School 143 (511 W. 182nd St., Manhattan), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 7 through January 10. None showed exceedances of the AHERA re-entry standard. (Note: A sample was not collected from P.S. 44 on January 10 due to an equipment malfunction.)

**Staten Island Landfill:**
**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 12 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from January 6 through January 10 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from January 6 through January 10 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 11 and January 13 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either did not exceed OSHA standards, or showed no detectable levels, of benzene on both January 11 and January 13.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 13. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, January 14, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 7, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location M-1) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

NYC / ER (Jan 8, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location E) was not collected due to an equipment malfunction.
Note: Low sample volumes recorded.

NYC / ER (Jan 8, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 9, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 9, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location D) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

NYC / ER (Jan 10, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location W) was not collected since the cartridge was missing.

NYC / ER (Jan 10, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 11, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not analyzed due to overloading of particulates.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 11) - Particulate Monitoring (Dataram)

Monitoring was not conducted due to the weather conditions.

Fresh Kills (Jan 12) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Oct 26) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

NYC / ER (Oct 30) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: QA/QC review of chromium in air analytical data has revealed that chromium is not present in these samples.

NYC / ER (Oct 30) - PCBs

Trace amounts detected in 1 of 10 samples well below levels of concern.
Concentration detected was below the EPA Removal Action level guidelines.
9 samples analyzed did not detect any PCBs.

NYC / ER (Nov 2) - PCBs

Trace amounts detected in 3 of 10 samples well below levels of concern.
Concentrations detected were below the EPA Removal Action level guidelines.
7 samples analyzed did not detect any PCBs.

NYC / ER (Dec 11) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Dec 19) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 7 - 10) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)

- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 27 samples were collected from these monitoring sites. A sample was not collected from Site 8 on January 10 due to an equipment malfunction.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 6) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***20.45 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***21.26ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***19.95 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 6) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***29.50 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 7) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.23 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.87 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***12.49 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 7) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***17.11 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 8) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***12.35 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.60 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***13.32 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 8) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.36 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 9) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.38 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***15.82 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***16.05 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 9) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.56 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 10) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***18.49 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***18.97 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***18.62 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 10) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***28.54 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 1) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***37.06 ug/m³***.
Chambers St./West St. (Site 2) - No data reported.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***19.8 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***24.0 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***22.71 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 2) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***28.87 ug/m³***.
Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***24.38 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***19.5 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***21.4 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***20.47 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 3) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***44.80 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***40.39 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***39.4 ug/m³***.

Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***38.8 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***35.61 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 4) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***60.11 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***50.96 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***58.3 ug/m³***.
Canal Street Post Office (Site 4) - No data reported.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***50.96 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 5) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***55.12 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***69.26 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***51.5 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***58.7 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***42.51 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 6) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***47.63 ug/m³***.
Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***39.48 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***39.5 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***38.6 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***31.41 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 7) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***34.65 ug/m³***.
Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***15.68 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***24.7 ug/m³***.

Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***23.0 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***22.46 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 8) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***17.22 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***19.22 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***18.0 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***16.6 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***16.35 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 9) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***11.86 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***17.05 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***12.9 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***11.6 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***8.11 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 10) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***21.84 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***26.08 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***25.1 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***24.8 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***18.84 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 11) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***33.53 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.44 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - No data reported.

Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***30.8 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***32.20 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 12) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***31.99 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***36.44 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***38.4 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***32.4 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***29.37 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 13) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***47.17 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***41.39 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - No data reported.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***40.9 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***35.4 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC ER (Dec 14) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***36.23 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.15 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***40.5 ug/m³***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***32.2 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***35.86 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Dec 15) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***15.35 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.18 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***9.8 ug/m³***.

Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***10.2 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***7.74 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 16) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***13.23 ug/m$^3$***.
Chambers St./West St. (Site 2) - No data reported.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***14.6 ug/m$^3$***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***12.2 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***11.73 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 17) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***24.58 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***27.54 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***25.9 ug/m$^3$***.
Canal Street Post Office (Site 4) - 24-hour average concentration for this period was ***25.5 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***20.34 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 11) - Particulate Monitoring (Dataram)

Monitoring of particulate levels at three locations (Stations L, N, R) was not conducted due to the weather conditions.

NYC / ER (Jan 11) - Volatile Organics (Mobile Laboratory)

Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 13) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.
Aside from two organic compounds identified at one of the locations, no others were detected at any of the four locations above the detection limit (20 ppbv).
Note: Windy conditions existed throughout the day.

Direct Reading Instruments

NYC / ER (Jan 11)

Monitoring was not conducted due to the weather conditions.

NYC / ER (Jan 13)

Nothing of significance reported during the afternoon monitoring period.
No monitoring conducted during the morning due to the weather conditions.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/07/02 1200 to 2359**

**Data Validation Date: 01/11/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/07/02 | RST-02937 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | - | M1 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/07/02 | RST-02938 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02939 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02940 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02941 | F | 661 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/07/02 | RST-02942 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02943 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02944 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02945 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02946 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02947 | D | 267 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0115 |
| 01/07/02 | RST-02948 | K | 387 | Air | 8.92 | 0.009 | 0 | 0 | <8.00 | <0.0080 |
| 01/07/02 | RST-02949 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02950 | T-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02951 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02952 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02953 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02954 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02955 | P | 712 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02956 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/07/02 | RST-02957 | W | 720 | Air | 8.28 | 0.004 | 3*** | 3*** | 53.33 | 0.0285 |
| 01/08/02 | FB010802 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/08/02 | TB010802 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-07-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/08/02 0001 to 1200**

**Data Validation Date: 01/11/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 01/08/02 | RST-02958 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02959 | M1 | 274 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0112 |
| 01/08/02 | RST-02960 | N | 596 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 01/08/02 | RST-02961 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02962 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02963 | F | 623 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 01/08/02 | RST-02964 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02965 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02966 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02967 | H | 618 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02968 | I | 651 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 01/08/02 | RST-02969 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/08/02 | RST-02970 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02971 | T | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02972 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02973 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02974 | V-Duplicate | 301 | Air | <7.0 | <0.009 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02975 | S | 268 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0102 |
| 01/08/02 | RST-02976 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0115 |
| 01/08/02 | RST-02977 | P | 314 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | - | E | NS | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0098 |
| 01/08/02 | RST-02978 | W | 720 | Air | NS | NS | NS | NS | NS | NS |
| 01/08/02 | FB010802 | Field Blank | 0 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | TB010802 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-01-08-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/11/02**
**Sampling Date and Time: 01/08/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/08/02 | RST-02979 | L | 369 | Air | <7.0 | <0.007 | 4*** | 0 | 32.0 | 0.0334 |
| 01/08/02 | RST-02980 | L-Duplicate | 459 | Air | <7.0 | <0.006 | 0 | 0 | <3.00 | <0.0067 |
| 01/08/02 | RST-02981 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02982 | M1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02983 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02984 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02985 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02986 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02987 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02988 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02989 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02990 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02991 | I | 476 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0065 |
| 01/08/02 | RST-02992 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 01/08/02 | RST-02993 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02994 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02995 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02996 | V | 681 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/08/02 | RST-02997 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02998 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-02999 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/08/02 | RST-03000 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | FB010902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/09/02 | TB010902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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H: South side of Chase Manhattan Plaza at Pine St.
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/11/02**
**Sampling Date and Time: 01/09/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/09/02 | RST-03001 | L | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03002 | M1 | 422 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 01/09/02 | RST-03003 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03004 | N-Duplicate | 636 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/09/02 | RST-03005 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03006 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03007 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03008 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03009 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03010 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03011 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03012 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03013 | I | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03014 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03015 | K | 662 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/09/02 | RST-03016 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03017 | U | 665 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/09/02 | RST-03018 | V | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/09/02 | RST-03019 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03020 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03021 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03022 | W | 715 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | FB010902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/09/02 | TB010902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
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N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-09-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/07/02 1200 to 2400**

**Data Validation Date: 01/11/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/07/02 | 7093-18-0102 | Park Row | 1184*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/07/02 | 7093-19-0102 | Chambers Street | 1256 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/07/02 | 7093-15-0100 | Manhattan PS #143 | 1338 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/07/02 | 7094-09-0090 | Bronx PS #154 | 1414 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/07/02 | 7096-12-0096 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/07/02 | 7095-98-0096 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/07/02 | 7097-18-0093 | Staten Island PS #44 | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted due to no access to station location
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

ext-01-07-02pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/09/02 1200 to 2359**

**Data Validation Date: 01/13/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/09/02 | RST-03023 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03024 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03025 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03026 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03027 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03028 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03029 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03030 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03031 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03032 | H | 43**** | Air | <7.0 | <0.063 | 0 | 0 | <8.00 | <0.0716 |
| 01/09/02 | RST-03033 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03034 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | - | D | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/09/02 | RST-03035 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03036 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03037 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03038 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03039 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03040 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03041 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03042 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/09/02 | RST-03043 | W | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | FB011002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/10/02 | TB011002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-09-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/10/02 0001 to 1200**

Data Validation Date: 01/13/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 01/10/02 | RST-03044 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03045 | M1 | 336 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0092 |
| 01/10/02 | RST-03046 | N | 333 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0092 |
| 01/10/02 | RST-03047 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03048 | Q | 451 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 01/10/02 | RST-03049 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03050 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03051 | C | 653 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/10/02 | RST-03052 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03053 | H | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/10/02 | RST-03054 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03055 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03056 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03057 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03058 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03059 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03060 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03061 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03062 | P | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03063 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/10/02 | RST-03064 | E-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | - | W | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/10/02 | FB011002 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/10/02 | TB011002 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-01-10-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/10/02 1200 to 2359**

**Data Validation Date: 01/13/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/10/02 | RST-03065 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03066 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03067 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03068 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03069 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03070 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03071 | A | 720 | Air | 17.83 | 0.0095 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03072 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03073 | C-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03074 | B | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03075 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03076 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03077 | D | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03078 | K | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03079 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03080 | U | 500 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0062 |
| 01/10/02 | RST-03081 | V | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03082 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03083 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/10/02 | RST-03084 | E | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/10/02 | RST-03085 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | FB011102 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/11/02 | TB011102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-10-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/13/02**
**Sampling Date and Time: 01/11/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/11/02 | RST-03086 | L | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/11/02 | RST-03087 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03088 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03089 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03090 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03091 | F | 651 | Air | <7.0 | <0.004 | NA (1) | NA (1) | NA (1) | NA (1) |
| 01/11/02 | RST-03092 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03093 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03094 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03095 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03096 | H | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03097 | I | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03098 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03099 | D-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03100 | K | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/11/02 | RST-03101 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03102 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03103 | V | 675 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/11/02 | RST-03104 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03105 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03106 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03107 | W | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03108 | A-Duplicate | 713 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | FB011102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/11/02 | TB011102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
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I: SE corner of Wall St. & Broadway
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L: On walkway loward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
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Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-11-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/08/02 1200 to 2400**

**Data Validation Date: 01/13/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/08/02 | 7093-18-0103 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/08/02 | 7093-19-0103 | Chambers Street | 1362 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 01/08/02 | 7093-15-0101 | Manhattan PS #143 | 1170*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 01/08/02 | 7094-09-0091 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/08/02 | 7096-12-0097 | Queens PS #199 | 1100*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 01/08/02 | 7095-98-0097 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/08/02 | 7097-18-0094 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

ext-01-08-02pm.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/09/02 1200 to 2400**

**Data Validation Date: 01/13/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 01/09/02 | 7093-18-0104 | Park Row | 1204 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/09/02 | 7093-19-0104 | Chambers Street | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/09/02 | 7093-15-0102 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/09/02 | 7094-09-0092 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/09/02 | 7096-12-0098 | Queens PS #199 | 1426 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/09/02 | 7095-98-0098 | Brooklyn PS #274 | 1136*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 01/09/02 | 7097-18-0095 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/10/02 1200 to 2400**

**Data Validation Date: 01/13/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc* |
| 01/10/02 | 7093-18-0105 | Park Row | 1426 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/10/02 | 7093-19-0105 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/10/02 | 7093-15-0103 | Manhattan PS #143 | 1128*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 01/10/02 | 7094-09-0093 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/10/02 | 7096-12-0099 | Queens PS #199 | 1420 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/10/02 | 7095-98-0099 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/10/02 | 7097-18-0096 | Staten Island PS #44 | NS | Air | NS | NS | NS | NS | NS | NS |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

ext-01-10-02pm.xls

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 11609 | | 11610 | | 11599 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4860 | |
| Date Collected | | - | | - | | - | | 10/30/01 | | 10/30/01 | | 10/30/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Calcium | ICAP | 3.4 | 2.5 | 3.3 | 2.5 | 3.8 | 2.5 | U | 2.5 | U | 2.5 | 1.2 | 0.51 |
| Chromium | ICAP | 0.67 | 0.13 | 0.65 | 0.13 | 0.72 | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.68 | 0.63 | 0.57 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.014 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Zinc | ICAP | 0.39 | 0.25 | 0.28 | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.14 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11600 | | 11601 | | 11602 | | 11603 | | 11604 | | 11605 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | B-CHURCH & DEY ST. | | LOC 3A PLAZA BETWEEN WTC 4&5 | | C1-LIBERTY ST. & BROADWAY | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4930 | | 4820 | | 4500 | | 4800 | | 4800 | | 4800 | |
| Date Collected | | 10/30/01 | | 10/30/01 | | 10/30/01 | | 10/30/01 | | 10/30/01 | | 10/30/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.47 | 0.25 | 0.84 | 0.26 | 1.1 | 0.28 | 1.4 | 0.26 | 1.1 | 0.26 | 3.6 | 0.26 |
| Antimony | AA-Fur | U | 0.01 | U | 0.01 | 0.012 | 0.01 | 0.021 | 0.01 | 0.02 | 0.01 | 0.051 | 0.01 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | 0.013 | 0.01 | 0.011 | 0.01 | 0.028 | 0.01 |
| Barium | ICAP | 0.03 | 0.025 | 0.045 | 0.03 | 0.063 | 0.03 | 0.057 | 0.03 | 0.039 | 0.03 | 0.091 | 0.03 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 |
| Cadmium | ICAP | U | 0.025 | U | 0.03 | U | 0.03 | U | 0.03 | U | 0.03 | U | 0.03 |
| Calcium | ICAP | 1.6 | 0.51 | 7.5 | 0.52 | 10 | 0.56 | 18 | 0.52 | 15 | 0.52 | 50 | 0.52 |
| Chromium | ICAP | U | 0.025 | 0.036 | 0.03 | 0.05 | 0.03 | U | 0.03 | U | 0.03 | 0.038 | 0.03 |
| Cobalt | ICAP | U | 0.051 | U | 0.05 | U | 0.06 | U | 0.05 | U | 0.05 | U | 0.05 |
| Copper | ICAP | U | 0.051 | 0.15 | 0.05 | 0.13 | 0.06 | 0.22 | 0.05 | 0.15 | 0.05 | 0.74 | 0.05 |
| Iron | ICAP | 0.82 | 0.13 | 1.9 | 0.13 | 5.0 | 0.14 | 6.6 | 0.13 | 5.8 | 0.13 | 17 | 0.13 |
| Lead | AA-Fur | 0.021 | 0.01 | 0.043 | 0.01 | 0.054 | 0.01 | 0.11 | 0.01 | 0.082 | 0.01 | 0.28 | 0.01 |
| Magnesium | ICAP | U | 2.5 | U | 2.6 | U | 2.8 | U | 2.6 | U | 2.6 | 3.6 | 2.6 |
| Manganese | ICAP | U | 0.025 | U | 0.03 | 0.08 | 0.03 | 0.11 | 0.03 | 0.078 | 0.03 | 0.28 | 0.03 |
| Nickel | ICAP | U | 0.051 | U | 0.05 | U | 0.06 | U | 0.05 | U | 0.05 | 0.071 | 0.05 |
| Potassium | ICAP | U | 10 | U | 10 | U | 11 | U | 10 | U | 10 | U | 10 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 |
| Silver | ICAP | U | 0.025 | U | 0.03 | U | 0.03 | U | 0.03 | U | 0.03 | U | 0.03 |
| Sodium | ICAP | U | 2.5 | U | 2.6 | U | 2.8 | U | 2.6 | U | 2.6 | U | 2.6 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 |
| Vanadium | ICAP | U | 0.051 | U | 0.05 | U | 0.06 | U | 0.05 | U | 0.05 | U | 0.05 |
| Zinc | ICAP | 0.18 | 0.051 | 0.26 | 0.05 | 0.41 | 0.06 | 0.58 | 0.05 | 0.54 | 0.05 | 1.5 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11606 | | 11607 | | 11608 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTHEND | | S-RECTOR PLACE & SOUTHEND | | E-LIBERTY ST. & SOUTHEND | |
| Air Volume (L) | | 4800 | | 4800 | | 4800 | |
| Date Collected | | 10/30/01 | | 10/30/01 | | 10/30/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.97 | 0.26 | 0.84 | 0.26 | 0.95 | 0.26 |
| Antimony | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Barium | ICAP | 0.046 | 0.026 | 0.047 | 0.03 | 0.035 | 0.03 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 |
| Cadmium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Calcium | ICAP | 7.1 | 0.52 | 5.2 | 0.52 | 8.9 | 0.52 |
| Chromium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Cobalt | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Copper | ICAP | 0.058 | 0.052 | 0.054 | 0.05 | U | 0.05 |
| Iron | ICAP | 2.5 | 0.13 | 2.1 | 0.13 | 1.9 | 0.13 |
| Lead | AA-Fur | 0.039 | 0.01 | 0.035 | 0.01 | 0.03 | 0.01 |
| Magnesium | ICAP | U | 2.6 | U | 2.6 | U | 2.6 |
| Manganese | ICAP | 0.029 | 0.026 | 0.028 | 0.03 | 0.026 | 0.03 |
| Nickel | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Potassium | ICAP | U | 10 | U | 10 | U | 10 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Silver | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Sodium | ICAP | U | 2.6 | U | 2.6 | U | 2.6 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Vanadium | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Zinc | ICAP | 0.21 | 0.052 | 0.21 | 0.05 | 0.19 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 10/30/01**

| Sample No. | WG6273-1 | | 11587 | | 11588 | | 11589 | | 11590 | | 11591 | | 11592 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | Loc 3 A | | C | |
| Sample Volume (L) | 0 | | 7149 | | 7149 | | 7260 | | 7200 | | 7200 | | 7200 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of MoCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of DiCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TrCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of TeCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of PeCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HxCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of HpCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of OcCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Sum of NoCBs | U | 10.0 | U | 1.40 | U | 1.40 | U | 1.38 | U | 1.39 | U | 1.39 | U | 1.39 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04052

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5

Qualifiers
U: denotes not detected
MDL: denotes method detection limit
J: denotes value is below detection limit and is estimated

ERTC 1/10/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 10/30/01**

| Sample No. | 11593 | | 11594 | | 11595 | | 11596 | | 11597 | | 11598 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7200 | | 7200 | | 7200 | | 7200 | | 0 | | 0 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | ng | ng | ng | ng |
| 209-DeCB | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | 1.8 | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.39 | U | 1.39 | U | 1.39 | U | 1.39 | U | 10.0 | U | 10.0 |
| Total | 1.8 | | 0 | | 0 | | 0 | | 0 | | 0 | |

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/02/01**

| Sample No. | WG-6280-1P | | 11623 | | 11624 | | 11625 | | 11626 | | 11627 | | 11628 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | B | | 3A | | C | |
| Sample Volume (L) | 0 | | 7467.5 | | 7210 | | 7105 | | 7335 | | 7350 | | 7305 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of MoCBs | U | 10.0 | U | 1.34 | U | 1.39 | 2.59 J | 1.41 | 1.6 | 1.36 | 5.62 J | 1.36 | U | 1.37 |
| Sum of DiCBs | U | 10.0 | U | 1.34 | U | 1.39 | 1.43 | 1.41 | U | 1.36 | 2.48 | 1.36 | U | 1.37 |
| Sum of TrCBs | U | 10.0 | U | 1.34 | U | 1.39 | 5.66 | 1.41 | 1.74 | 1.36 | 10.1 | 1.36 | U | 1.37 |
| Sum of TeCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of PeCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of HxCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of HpCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of OcCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Sum of NoCBs | U | 10.0 | U | 1.34 | U | 1.39 | U | 1.41 | U | 1.36 | U | 1.36 | U | 1.37 |
| Total | 0 | | 0 | | 0 | | 9.68 J | | 3.34 | | 18.2 J | | 0 | |

COC# 04054

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

Qualifiers
U: denotes not detected
MDL: denotes method detection limit
J: denotes value is below detection limit and is estimated

ERT: 1/10/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 11/02/01**

| Sample No. | 11629 | | 11630 | | 11631 | | 11632 | | 11633 | | 11634 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7275 | | 6989 | | 7245 | | 7200 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DcCB | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.43 | U | 1.38 | U | 1.39 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04054

Table 1.1 (cont.) Results of the Analysis for PAH in Ai·
WA # 0-0236: NYC ER Site

| Sampling Date: 12/19/01 | | | | |
|---|---|---|---|---|
| Sample No. | 05950 | | 05965 | |
| Sampling Location | E Liberty St. & South End Ave | | Field Blank | |
| Volume (L) | 480 | | 0 | |
| Compound Name | Conc. ppbv | MDL ppbv | Conc. µg | MDL µg |
| Naphthalene | U | 4.3 | U | 11 |
| 2-Methylnaphthalene | U | 4.1 | U | 11 |
| 1-Methylnaphthalene | U | 4.0 | U | 11 |
| Biphenyl | U | 3.8 | U | 11 |
| 2,6-Dimethylnaphthalene | U | 3.8 | U | 12 |
| Acenaphthylene | U | 3.9 | U | 12 |
| Acenaphthene | U | 3.6 | U | 11 |
| Dibenzofuran | U | 3.4 | U | 11 |
| Fluorene | U | 3.5 | U | 11 |
| Phenanthrene | U | 3.1 | U | 11 |
| Anthracene | U | 3.2 | U | 11 |
| Carbazole | U | 3.7 | U | 12 |
| Fluoranthene | U | 2.9 | U | 12 |
| Pyrene | U | 2.8 | U | 11 |
| Benzo(a)anthracene | U | 2.5 | U | 11 |
| Chrysene | U | 2.2 | U | 10 |
| Benzo(b)fluoranthene | U | 2.3 | U | 11 |
| Benzo(k)fluoranthene | U | 2.5 | U | 12 |
| Benzo(e)pyrene | U | 2.3 | U | 11 |
| Benzo(a)pyrene | U | 2.5 | U | 13 |
| Indeno(1,2,3-cd)pyrene | U | 2.6 | U | 14 |
| Dibenzo(a,h)anthracene | U | 2.6 | U | 14 |
| Benzo(g,h,i)perylene | U | 2.4 | U | 13 |

COC 04377

ERTC 1/10/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

12-11-19-01PAH.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) FR site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 11573 | | 11574 | | 11563 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4728.75 | |
| Date Collected | | - | | - | | - | | 10/26/01 | | 10/26/01 | | 10/26/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.72 | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Calcium | ICAP | 4.7 | 2.5 | 3.0 | 2.5 | 3.6 | 2.5 | U | 2.5 | U | 2.5 | 3.4 | 0.53 |
| Chromium | ICAP | 0.65 | 0.13 | 0.74 | 0.13 | 0.98 | 0.13 | U | 0.13 | 0.17 | 0.13 | U | 0.03 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.6 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.026 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 11 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.03 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11564 | | 11565 | | 11566 | | 11567 | | 11568 | | 11569 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | B-CHURCH & DEY ST. | | LOC 3A BETWEEN WTC 4 + 5 | | C1-LIBERTY ST. & BROADWAY | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4767.75 | | 4446 | | 4930 | | 4800 | | 6817.5 | | 4830 | |
| Date Collected | | 10/26/01 | | 10/26/01 | | 10/26/01 | | 10/26/01 | | 10/26/01 | | 10/26/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.4 | 0.26 | 2.1 | 0.28 | 4.7 | 0.25 | 15 | 0.26 | 0.83 | 0.18 | 1.6 | 0.26 |
| Antimony | AA-Fur | U | 0.01 | 0.027 | 0.01 | 0.049 | 0.01 | 0.15 | 0.01 | U | 0.0073 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | 0.022 | 0.01 | U | 0.0073 | U | 0.01 |
| Barium | ICAP | U | 0.026 | 0.066 | 0.03 | 0.094 | 0.03 | 0.27 | 0.026 | 0.036 | 0.018 | 0.057 | 0.03 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.0073 | U | 0.01 |
| Cadmium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 | 0.029 | 0.026 | U | 0.018 | U | 0.03 |
| Calcium | ICAP | 2.4 | 0.52 | 41 | 0.58 | 86 | 0.51 | 300 | 0.52 | 7.8 | 0.37 | 16 | 0.52 |
| Chromium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 | 0.074 | 0.026 | U | 0.018 | U | 0.03 |
| Cobalt | ICAP | U | 0.052 | U | 0.06 | U | 0.05 | U | 0.052 | U | 0.037 | U | 0.05 |
| Copper | ICAP | U | 0.052 | 0.27 | 0.06 | 0.72 | 0.05 | 2.4 | 0.052 | 0.043 | 0.037 | 0.084 | 0.05 |
| Iron | ICAP | 1.1 | 0.13 | 4.2 | 0.14 | 7.4 | 0.13 | 22 | 0.13 | 2.3 | 0.092 | 3.8 | 0.13 |
| Lead | AA-Fur | 0.019 | 0.01 | 0.14 | 0.01 | 0.22 | 0.01 | 0.82 | 0.01 | 0.054 | 0.0073 | 0.069 | 0.01 |
| Magnesium | ICAP | U | 2.6 | U | 2.8 | 4.9 | 2.5 | 16 | 2.6 | U | 1.8 | 3.1 | 2.6 |
| Manganese | ICAP | U | 0.026 | 0.074 | 0.03 | 0.21 | 0.03 | 0.62 | 0.026 | 0.047 | 0.018 | 0.067 | 0.03 |
| Nickel | ICAP | U | 0.052 | U | 0.06 | U | 0.05 | 0.063 | 0.052 | U | 0.037 | U | 0.05 |
| Potassium | ICAP | U | 10 | U | 11 | U | 10 | U | 10 | U | 7.3 | U | 10 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.0073 | U | 0.01 |
| Silver | ICAP | U | 0.026 | U | 0.03 | U | 0.03 | U | 0.026 | U | 0.018 | U | 0.03 |
| Sodium | ICAP | U | 2.6 | U | 2.8 | U | 2.5 | 2.8 | 2.6 | U | 1.8 | U | 2.6 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.0073 | U | 0.01 |
| Vanadium | ICAP | U | 0.052 | U | 0.06 | U | 0.05 | U | 0.052 | U | 0.037 | U | 0.05 |
| Zinc | ICAP | 0.21 | 0.052 | 0.80 | 0.06 | 1.5 | 0.05 | 4.7 | 0.052 | 0.33 | 0.037 | 0.45 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11570 | | 11571 | | 11572 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END | | F-RECTOR PLACE & SOUTH END | | E-LIBERTY ST. & SOUTH END | |
| Air Volume (L) | | 4800 | | 4820 | | 4800 | |
| Date Collected | | 10/26/01 | | 10/26/01 | | 10/26/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.1 | 0.26 | 1.4 | 0.26 | 1.6 | 0.26 |
| Antimony | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Barium | ICAP | 0.038 | 0.026 | 0.029 | 0.03 | 0.033 | 0.03 |
| Beryllium | ICAP | U | 0.01 | U | 0.01 | U | 0.01 |
| Cadmium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Calcium | ICAP | 7.1 | 0.52 | 8.8 | 0.52 | 9.5 | 0.52 |
| Chromium | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Cobalt | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Copper | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Iron | ICAP | 2.6 | 0.13 | 2.3 | 0.13 | 2.1 | 0.13 |
| Lead | AA-Fur | 0.038 | 0.01 | 0.043 | 0.01 | 0.035 | 0.01 |
| Magnesium | ICAP | U | 2.6 | U | 2.6 | U | 2.6 |
| Manganese | ICAP | 0.058 | 0.026 | 0.066 | 0.03 | 0.062 | 0.03 |
| Nickel | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Potassium | ICAP | U | 10 | U | 10 | U | 10 |
| Selenium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Silver | ICAP | U | 0.026 | U | 0.03 | U | 0.03 |
| Sodium | ICAP | U | 2.6 | U | 2.6 | U | 2.6 |
| Thallium | AA-Fur | U | 0.01 | U | 0.01 | U | 0.01 |
| Vanadium | ICAP | U | 0.052 | U | 0.05 | U | 0.05 |
| Zinc | ICAP | 0.34 | 0.052 | 0.22 | 0.05 | 0.20 | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
January 12, 2002

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 36 | 09:00:00 | 10 | 00:15:00 | 100 | 0.0 | 6.0 | 21.0 | 534.9 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 34 | 08:30:00 | 10 | 00:15:00 | 100 | 0.0 | 16.6 | 24.7 | 103.9 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 34 | 08:30:00 | 10 | 00:15:00 | 100 | 0.0 | 11.1 | 18.2 | 52.2 |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/13/02**

| File Name | NYC755 | NYC757 | NYC758 | NYC759 | NYC761 | NYC760 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07341 | A07342 | A07344 | A07343 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 31 |
| MTBE | RL | RL | RL | RL | RL | 24 |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | R. |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | R. |
| Cyclohexane | RL | RL | RL | RL | RL | R. |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | R. |
| 1,2-Dichloroethane | R. | RL | RL | RL | RL | R. |
| Benzene | R. | RL | RL | RL | RL | R. |
| Heptane | R. | RL | RL | RL | RL | RL |
| Trichloroethene | R. | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/11/02**

| File Name | NYC735 | NYC737 | NYC738 | NYC739 | NYC742 | NYC740 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07333 | A07334 | A07335 | A07336 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | 680 | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | 720 | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | 29 | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 130 | 560 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | 26 | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 27 | 51 |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | 25 | RL |
| Tetrahydrofuran | RL | RL | RL | RL | 47 | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | 670 | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | 75 | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | 170 | 22 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | 46 | RL |
| Ethylbenzene | RL | RL | RL | RL | 180 | RL |
| m&p-Xylenes | RL | RL | RL | RL | 35 | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | 67 | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | 21 | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-13-02 (Sun) RST: 1 Brown

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1220 | 0 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 1235 | 0 | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1230 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1235 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| O | 1240 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 1242 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 1249 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 1252 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 1255 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1301 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 1305 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1310 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1315 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1323 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | N/T | Access 1300 | | | | | | | | | | |
| S | 1355 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1352 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1342 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |

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# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Tuesday, January 15, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:00 p.m. on 1/15**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 42 samples taken in and around ground zero on January 11 and January 12. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,769, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-one air samples collected on January 9 and January 12 were analyzed for asbestos. All were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 12 and January 14 at Locations L (northeast side of Stuyvesant High School) and Location R (northwest side of Stuyvesant High School), and on January 14 at Location N (south side of Pier 25). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 12 and January 14 at four locations in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

Samples taken at the North Tower debris pile exceeded the OSHA standards for benzene on January 12. Benzene was not detected at the other three locations (EPA's Wash Tent at West & Murray Streets, Austin Tobin Plaza, and the South Tower debris pile).

VOC's were not detected in any of the four ground zero locations on January 14.

**Direct Air Readings -** EPA did air monitoring in and around ground zero for a number of compounds on January 12 and January 14. Other than low levels of carbon monoxide, nothing of significance was noted.

**Analysis and quality assurance of the following data, collected in prior months, has recently been completed:**

**Fresh Kills – Metals**

A total of 20 samples were collected on December 10, 15, 19 and 21 at the Fresh Kills Landfill in Staten Island. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ground Zero – VOC's**

A total of 12 samples were collected on December 3, 10 and 17 at or near the debris pile at Ground Zero (South Tower-South Side, North Tower-West Side, North Tower-North Side, and Austin Tobin Plaza). VOCs were either not detected or were below applicable OSHA PELs. The results were also below EPA Removal Action level guidelines.

**Stuyvesant High School-Northwest Side – VOC's**

A total of 3 samples were collected on December 3, 10 and 17 from a location on the northwest side of Stuyvesant High School. The level of 1,1,2,2-Tetrachloroethane exceeded the EPA Removal Action level guidelines (based on a 30-year exposure) on December 10, however, the level did not exceed the EPA Removal Action level guidelines adjusted to a 1-year exposure duration. (Note that this location was upwind of Ground Zero at the time of this sampling event.) All other VOCs were either not detected or were below the EPA Removal Action level guidelines (based on a 30-year exposure).

**Lower Manhattan – Dioxin**

A total of 30 samples were collected on December 4, 6 and 11 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Lower Manhattan – Metals**

A total of 40 samples were collected on October 26, October 30, December 11 and December 19 at various locations in Lower Manhattan. The level of arsenic nominally exceeded the EPA Removal Action level guidelines (based on a 30-year exposure) at the southeast corner of Church & Dey Streets on December 19. However, the arsenic concentration was below the EPA Removal Action level guidelines adjusted to 1-year exposure, and the NIOSH REL and OSHA PEL. Metals in all other samples were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Lower Manhattan – PCBs**

A total of 50 samples were collected on October 30, November 2, and December 6, 11 and 19 at various locations in Lower Manhattan. PCBs were either not detected, or samples contained trace amounts that were well below levels of concern.

**Lower Manhattan – Silactes**

A total of 10 samples were collected on December 19 at various locations in Lower Manhattan. Silicates were not detected.

**Lower Manhattan – PAHs**

A total of 20 samples were collected on December 11 and 19 at various locations in Lower Manhattan. PAHs were not detected.

**Lower Manhattan/Brooklyn – Particulates ($PM_{10}$)**

Sampling for particulates occured on December 1 through December 17 at several locations in Lower Manhattan (Park Row, Chambers & West Streets, Coast Guard Building-Battery Park, and the Canal Street Post Office) as well as one location in Brooklyn (P.S. 274 - 800 Bushwick Avenue). All readings were below the National Ambient Air Quality Standard for $PM_{10}$.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, January 15, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 11, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
A sample was not submitted for Location T since access to that location was not available.
Note: Low sample volumes recorded.

NYC / ER (Jan 12, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
A sample was not submitted for Location T since access to that location was not available.
Note: Low sample volume recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 9, 0748 - 2220 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
2 samples (Location P-4 and P-8) were not collected due to equipment malfunction.

Fresh Kills (Jan 10)

Results pending.

Fresh Kills (Jan 11)

Results pending.

Fresh Kills (Jan 12, 0741 - 2203 hrs)

All 14 samples analyzed were below the TEM AHERA standard.
A sample was not submitted for Location O-19 since access to that location was not available.
4 samples were not analyzed due to overloading of particulates

Fresh Kills (Jan 13) - Particulate Monitoring (Dataram)

No measurements were conducted due to the weather conditions.

Ambient Air Sampling Locations

NYC / ER (Jan 12) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 9.0 to 145.9 ug/$m^3$ with an average of 33.5 ug/$m^3$.
Station R values ranged from 4.2 to 75.0 ug/$m^3$ with an average of 22.6 ug/$m^3$.
Note: Measurements were not taken at Location N due to an equipment malfunction.

NYC / ER (Jan 13) - Particulate Monitoring (Dataram)

Monitoring of particulate levels at three locations (Stations L, N, R) was not conducted due to the weather conditions.

NYC / ER (Jan 14) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 8.8 to 87.6 ug/$m^3$ with an average of 18.3 ug/$m^3$.
Station R values ranged from 9.8 to 94.9 ug/$m^3$ with an average of 18.7 ug/$m^3$.
Station N values ranged from 6.7 to 390.0 ug/$m^3$ with an average of 14.9 ug/$m^3$.

NYC / ER (Jan 12) - Volatile Organics (Mobile Laboratory)

Benzene exceeded the OSHA TWA PEL (1 ppm) at one location (North Tower) on the debris pile in the plume at ground level.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 14) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Jan 12)

Low levels of carbon monoxide noted at nearly all stations during both monitoring periods.
Otherwise, nothing of significance reported.

NYC / ER (Jan 14)

Low levels of carbon monoxide noted at nearly all stations during the afternoon monitoring period.
Otherwise, nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/11/02 1200 to 2359**

Data Validation Date: 01/14/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/11/02 | RST-03109 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03110 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03111 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03112 | M-1 Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03113 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03114 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03115 | Q | 124**** | Air | <7.0 | <0.022 | 0 | 0 | <8.00 | <0.024# |
| 01/11/02 | RST-03116 | F | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03117 | A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03118 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03119 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03120 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03121 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03122 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03123 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/11/02 | RST-03124 | U | 191**** | Air | <7.0 | <0.014 | 0 | 0 | <8.00 | <0.0161 |
| 01/11/02 | RST-03125 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03126 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03127 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03128 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/11/02 | RST-03129 | W | 720 | Air | 14.65 | 0.008 | 0 | 0 | <8.00 | <0.0043 |
| 01/12/02 | FB011202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/12/02 | TB011202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted due to no access to station location

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-11-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/12/02 0001 to 1200**

**Data Validation Date: 01/14/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 01/12/02 | RST-03130 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03131 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03132 | N | 44**** | Air | <7.0 | <0.061 | 0 | 0 | <8.00 | <0.0700 |
| 01/12/02 | RST-03133 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03134 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03135 | J-Duplicate | 423 | Air | 7.64 | 0.007 | 0 | 0 | <8.00 | <0.0073 |
| 01/12/02 | RST-03136 | Q | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03137 | F | 709 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 01/12/02 | RST-03138 | A | 645 | Air | 7.64 | 0.006 | 0 | 0 | <8.00 | <0.0048 |
| 01/12/02 | RST-03139 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03140 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03141 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03142 | I | 666 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/12/02 | RST-03143 | D | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/12/02 | RST-03144 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/12/02 | RST-03145 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03146 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03147 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03148 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03149 | E | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 01/12/02 | RST-03150 | W | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.00 | <0.0043 |
| 01/12/02 | FB011202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/12/02 | TB011202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysolite
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted due to no access to station location

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-01-12-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/09/02 0748 to 2220**

**Data Validation Date: 01/13/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/09/02 | LF02066 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02067 | P-2 | 534 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0063 |
| 01/09/02 | LF02068 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02069 | P-4 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/09/02 | LF02070 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02071 | P-6 | 553 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0061 |
| 01/09/02 | LF02072 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02073 | P-8 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/09/02 | LF02074 | W-11 | 720 | Air | NA(1) | NA(1) | 2*** | 0 | 17.50 | 0.0094 |
| 01/09/02 | LF02075 | W-12A | 720 | Air | 15.29 | 0.008 | 3*** | 2*** | 43.74 | 0.0234 |
| 01/09/02 | LF02076 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02077 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02078 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02079 | T-15 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02080 | T-16 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02081 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02082 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02083 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02084 | MPHS-20 | 720 | Air | NA(1) | NA(1) | 0 | 0 | <8.75 | <0.0047 |
| 01/09/02 | LF02085 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/09/02 | LF02086 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-09-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/12/02 0741 to 2203**

Data Validation Date: 01/14/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/12/02 | LF02129 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02130 | P-2 | 450 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0067 |
| 01/12/02 | LF02131 | P-3 | 720 | Air | <7.0 | <0.004 | 3*** | 0 | 26.25 | 0.0140 |
| 01/12/02 | LF02132 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02133 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02134 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02135 | P-7 | 573 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0053 |
| 01/12/02 | LF02136 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02137 | W-11 | 720 | Air | 10.19 | 0.005 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/12/02 | LF02138 | W-12A | 720 | Air | 28.03 | 0.015 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/12/02 | LF02139 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02140 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02141 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02142 | T-15 | 720 | Air | 45.86 | 0.025 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/12/02 | LF02143 | T-16 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02144 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02145 | O-18 | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/12/02 | LF02146 | O-19 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/12/02 | LF02147 | MPHS-20 | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02148 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/12/02 | LF02149 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted at this time due to no access to station location

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-12-02-am.xls

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**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center
Sampler: Rich Tikenor / John Lien
U.S. EPA: Norrell
Date: 1-14 02
RST Site Project Manager: Brennan

| Location | R | ~~K~~ L | K N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2607 | 2646 | 2647 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0902 | 0906 | ~~0900~~ 0906 | | | |
| Stop Time | 1406 | 1400 ~~06~~ 10* | 1413 | | | |
| Run Time (Minutes) | 363.5 | 363.5 | 352.5 | | | |
| Minimum Concentration (ug/m3) | 9.8 | 8.8 | 6.7 | | | |
| Maximum Concentration (ug/m3) | 94.9 | 87.6 | 390.0 | | | |
| Average Concentration (TWA) (ug/m3) | 18.7 | 18.3 | 14.9 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: E. Hoffman

Date: 11/12 (10, 11)/02

U.S. EPA: Norrell

RST Site Project Manager: Brennan

| Location | L | R | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2646 | 2647 | | | | |
| Flow Rate (Liters / Minute) | 2 L/m | 2 L/m | | | | |
| Start Time | 0811 | 0811 | | | | |
| Stop Time | 1407 | 1405 | | | | |
| Run Time (Minutes) | 352.5 | 353.5 | | | | |
| Minimum Concentration (ug/m3) | 9.0 | 4.2 | | | | |
| Maximum Concentration (ug/m3) | 145.9 | 75.0 | | | | |
| Average Concentration (TWA) (ug/m3) | 33.5 | 22.6 | | | | |

DATARAM DIED DURING SET UP. DATARAM WAS NOT RUN AT THIS LOCATION TODAY.

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/12 (W.M) 12 (Early)

RST: B. Hoffman Early

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0818 | ND | ND | 20.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0825 | ND | ND | 20.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| N | 0830 | ND | ND | 20.4 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 0840 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0845 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 0852 | ND | ND | 20.4 | 5 | ND | ND | ND | ND | ND | ND | ND |
| A | 0900 | ND | ND | 20.4 | 5 | ND | ND | ND | ND | ND | ND | ND |
| C | 0902 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 0910 | ND | ND | 20.4 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 0915 | ND | ND | 20.4 | 2 | ND | ND | ND | ND | ND | ND | ND |
| I | 0925 | ND | ND | 20.4 | 2 | ND | ND | ND | ND | ND | ND | ND |
| D | 0940 | ND | ND | 20.4 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 0950 | ND | ND | 20.4 | 5 | ND | ND | ND | ND | ND | ND | ND |
| T | 0955 | NO ACCESS | | | | | | | | | | |
| U | 0955 | ND | ND | 20.4 | 4 | ND | ND | ND | ND | ND | ND | ND |
| V | 1000 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| S | 1005 | ND | ND | 20.4 | 4 | ND | ND | ND | ND | ND | ND | ND |
| P | 1010 | 0.1 | ND | 20.4 | 8 | ND | ND | ND | ND | ND | ND | ND |
| E | 1020 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |

HP, MC1, cc4 - SAM

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Late

DATE: 1/17 (W.M.) 1/18/02 (Late)

RST: B Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1205 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1210 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1215 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1220 | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| O | 1225 | ND | ND | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 1227 | ND | ND | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| A | 1232 | ND | ND | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| C | 1237 | ND | ND | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 1241 | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 1250 | 0.1 | ND | 20.8 | 3 | ND | ND | ND | ND | ND | ND | ND |
| E | 1255 | ND | ND | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| D | 1300 | ND | ND | 20.7 | 1 | ND | ND | ND | ND | ND | ND | ND |
| K | 1304 | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| T | 1309 | ND | Arc Out | | | | | | | | | |
| U | 1309 | ND | ND | 20.8 | 5 | ND | ND | ND | ND | ND | ND | ND |
| V | 1315 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1330 | ND | ND | 20.8 | 1 | ND | ND | ND | ND | * | ND | ND |
| P | 1338 | ND | ND | 20.8 | ND | ND | ND | ND | ND | * | ND | ND |
| E | 1345 | ND | ND | 20.7 | ND | ND | ND | ND | ND | * | ND | ND |

* Battery Dead

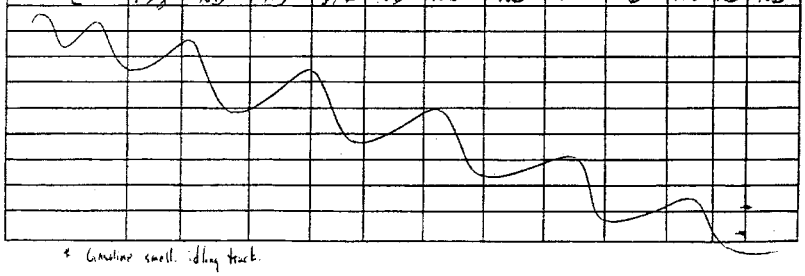
HCl, HF, $COCl_2$ - SPM

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-14-02 A.M. RST: Rob T. Lamar

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 0821 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 0832 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| L | 0807 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0825 | ND | ND | 21.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0830 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 0836 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 0846 | ND | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| C | 0854 | ND | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 0900 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| H | 0909 | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| I | 0917 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 0925 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 0934 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 0941 | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| U | 0948 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 0957 | 0.1* | ND | 21.3 | 6 | ND | ND | ND | ND | ND | ND | ND |
| S | 1018 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| P | 1024 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| E | 1032 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |



* Gasoline smell. Idling truck.

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/14/02 PM RST: Rb Tidmore

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1220 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 1222 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 1225 | 0.3 | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| J | 1229 | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| O | 1232 | ND | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| F | 1234 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| A | 1245 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 1249 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 1251 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| H | 1303 | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| I | 1305 | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| D | 1313 | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| K | 1317 | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| T | 1322 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| U | 1325 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| V | 1327 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| S | 1332 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1335 | 0.1 | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| E | 1337 | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/12/02**

| File Name | NYC747 | NYC748 | NYC749 | NYC750 | NYC752 | NYC751 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07337 | A07338 | A07340 | A07339 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **1000** | **79** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **24** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **51** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **2200** | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | **42** | RL |
| Chloroethane | RL | RL | RL | RL | **60** | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **27** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **530** | **32** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **200** |
| MTBE | RL | RL | RL | RL | RL | **110** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **52** | **52** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **120** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | **26** | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **140** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **50** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **1200** | RL |
| Heptane | RL | RL | RL | RL | **36** | **36** |
| Trichloroethene | RL | RL | RL | RL | **28** | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **33** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **260** | **47** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | **21** | **23** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | **67** | RL |
| Ethylbenzene | RL | RL | RL | RL | **260** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **38** | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **290** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | **28** | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/14/02**

| File Name | NYC765 | NYC766 | NYC767 | NYC768 | NYC770 | NYC769 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07345 | A07346 | A07347 | A07348 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Wednesday, January 16, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on 1/16**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 42 samples taken in and around ground zero on January 12 and January 13. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,769, with 30 samples above the standard (27 of these were collected prior to September 30, the other three were collected on October 9, November 27 and December 27).

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-seven air samples collected on January 10 and January 11 were analyzed for asbestos. The sample collected from the Indoor Wash Station (Location W-12A) on January 11 exceeded the TEM AHERA standard. EPA will work with other responsible agencies to examine the wash process for possible operational sources of the exceedance, and take any necessary corrective action. All other samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 14 at the Staten Island Landfill. There were no significant readings.

**Air (Metals)** - Five samples were collected on December 27 and analyzed for metals. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 15 at Location L (northeast side of Stuyvesant High School), Location N (south side of Pier 25) and Location R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**PCBs** - A total of 19 samples were collected on December 27 and January 3 at various locations in Lower Manhattan. PCBs were either not detected, or samples contained trace amounts that were well below levels of concern.

**Silactes** - A total of 20 samples were collected on December 27 and January 3 at various locations in Lower Manhattan. Silicates were not detected.

**Dioxin** - A total of 30 samples were collected on November 15, December 19 and December 27 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Metals** - A total of 20 samples were collected on December 27 and January 3 at various locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 12 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of benzene on January 12.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 15. Other than low levels of carbon monoxide, nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, January 16, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 12, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
Location T was not sampled since access to that location was not available.

NYC / ER (Jan 13, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
Location T was not sampled since access to that location was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 10, 0745 - Jan 11, 0210)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 11, 0800 - 2225 hrs)

1 of 18 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at indoor "Wash" Location W-12A (166.23 S/mm$^2$).
1 sample (Location P-4) was not submitted for analysis.

Fresh Kills (Dec 27) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Jan 14) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-2 and P-6) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Dec 3) - Volatile Organic Compounds

Analytical data is attached for results previously presented on the Friday, January 11 Sampling Situation Report.

NYC / ER (Nov 15) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Although the sample at Location 3B appears to be equal to the EPA Removal Action level guideline (based on a 30-year exposure), elevated levels of dioxin identified in the quality control (QC) samples (blanks) indicate that dioxin is not present in the air sample from Location B at levels sufficiently above those in the control samples to be considered a valid result. In addition, all of the other air samples collected during this round also indicate that dioxin is not present at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Dec 19) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Elevated levels of dioxin identified in the quality control (QC) samples (blanks) indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Dec 27) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Elevated levels of dioxin identified in the quality control (QC) samples (blanks) indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Dec 27) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 3, 2002) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Arsenic was detected at Location D at a concentration of 0.04 $ug/m^3$. The EPA Removal Action level guideline (based on a 30-year exposure) is 0.041 $ug/m^3$.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Dec 27) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 3, 2002) - PCBs

All 9 samples analyzed did not detect any PCBs.
1 sample was not submitted for analysis since the cartridge was damaged.

NYC / ER (Dec 27) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Jan 3, 2002) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Jan 15) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 8.5 to 342.0 ug/$m^3$ with an average of 135.2 ug/$m^3$.
Station N values ranged from 4.0 to 241.8 ug/$m^3$ with an average of 103.1 ug/$m^3$.
Station R values ranged from 0.0 to 279.1 ug/$m^3$ with an average of 132.6 ug/$m^3$.

NYC / ER (Jan 12) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) at any of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Jan 15)

Low levels of carbon monoxide noted at nearly all stations during both monitoring periods.
Otherwise, nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/12/02 1200 to 2359**

**Data Validation Date: 01/15/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/12/02 | RST-03151 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03152 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03153 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03154 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03155 | Q | 500 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0062 |
| 01/12/02 | RST-03156 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03157 | A | 720 | Air | 14.01 | 0.007 | 2*** | 0 | 17.78 | 0.0095 |
| 01/12/02 | RST-03158 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03159 | B | 489 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 01/12/02 | RST-03160 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03161 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03162 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03163 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03164 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03165 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03166 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03167 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03168 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03169 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03170 | E | 693 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/12/02 | RST-03171 | W | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | FB011302 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/13/02 | TB011302 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-12-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/13/02 0001 to 1200**

**Data Validation Date: 01/15/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 01/13/02 | RST-03172 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03173 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03174 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03175 | J | 435 | Air | <7.0 | <0.006 | 0 | 0 | <8.89 | <0.0071 |
| 01/13/02 | RST-03176 | Q | 677 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0045 |
| 01/13/02 | RST-03177 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03178 | A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03179 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03180 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03181 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03182 | I | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03183 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03184 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/13/02 | RST-03185 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03186 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03187 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03188 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03189 | P-Duplicate | 348 | Air | <7.0 | <0.008 | 1*** | 0 | 8.00 | 0.0089 |
| 01/13/02 | RST-03190 | E | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03191 | E-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03192 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | FB011302 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/13/02 | TB011302 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 ; West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-01-13-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/10/02 0745 to 01/11/02 0210**

**Data Validation Date: 01/14/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/10/02 | LF02087 | P-1 | 646 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0047 |
| 01/10/02 | LF02088 | P-2 | 471 | Air | <7.0 | <0.006 | 0 | 0 | <8.75 | <0.0072 |
| 01/10/02 | LF02089 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02090 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02091 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02092 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02093 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02094 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02095 | W-11 | 720 | Air | 11.46 | 0.006 | 2*** | 0 | 17.50 | 0.0094 |
| 01/10/02 | LF02096 | W-12A | 720 | Air | 30.57 | 0.016 | 2*** | 0 | 17.50 | 0.0094 |
| 01/10/02 | LF02097 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02098 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02099 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02100 | T-15 | 720 | Air | 34.39 | 0.018 | 2*** | 0 | 17.50 | 0.0094 |
| 01/10/02 | LF02101 | T-16 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02102 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02103 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02104 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02105 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/10/02 | LF02106 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |
| 01/10/02 | LF02107 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/11/02 0800 to 2225**

**Data Validation Date: 01/15/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 01/11/02 | LF02108 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02109 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02110 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02111 | P-4 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/11/02 | LF02112 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02113 | P-6 | 641 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0047 |
| 01/11/02 | LF02114 | P-7 | 688 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/11/02 | LF02115 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02116 | W-11 | 720 | Air | 19.11 | 0.010 | 3*** | 2*** | 43.74 | 0.0234 |
| 01/11/02 | LF02117 | W-12A | 720 | Air | 16.56 | 0.009 | 18*** | 1*** | 166.23 | 0.0889 |
| 01/11/02 | LF02118 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02119 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02120 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02121 | T-15 | 720 | Air | 64.97 | 0.035 | 2*** | 0 | 17.50 | 0.0094 |
| 01/11/02 | LF02122 | T-16 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02123 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02124 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02125 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02126 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/11/02 | LF02127 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/11/02 | LF02128 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
NA[3] - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-11-02-am.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 14, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 32 | 15:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 4.3 | 163.6 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 2226 | 1 | 22 | 05:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 12.3 | 37.6 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2011 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 12/27/01 0730 to 1500**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 12/27/01 | 11483 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11484 | 3B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11485 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11486 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11487 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11490 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11488 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11489 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11481 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 12/27/01 | 11482 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04890

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

NS: Not sampled

ERT 1/15/02

**NIOSH 7500: Silica crystalline by XRD**

FL-12-27-01silica.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 1/03/02 0730 to 1500**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 1/3/02 | 06023 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06024 | 3B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06025 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06026 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06027 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06030 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06028 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06029 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06021 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/3/02 | 06022 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04897

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

NS: Not sampled

ERT 1/15/02

**NIOSH 7500: Silica crystalline by XRD**

FL-1-03-02silica.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/27/01**

| Sample No. | WG7024-1 | | | 11461 | | | 11462 | | | 11463 | | | 11464 | | | 11465 | | | 11466 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6960 | | | 5790 | | | 7200 | | | 6720 | | | 5790 | | | 7230 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0029 | U | | 0.0035 | U | | 0.0028 | U | | 0.0030 | U | | 0.0035 | U | | 0.0028 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | 0.0003 | 0.015 | U | 0.0001 | 0.017 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 1234678-HpCDD | U | 0.0106 | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| OCDD | 0.189 J | | 0.20 | U | | 0.029 | U | | 0.035 | U | | 0.028 | U | | 0.030 | U | 0.0169 | 0.035 | U | | 0.028 |
| 2378-TCDF | U | | 0.020 | U | | 0.0029 | U | | 0.0035 | U | 0.0003 | 0.0028 | U | | 0.0030 | U | | 0.0035 | U | | 0.0028 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | 0.0002 | 0.015 | U | | 0.017 | U | | 0.014 |
| 123678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | 0.0002 | 0.015 | U | | 0.017 | U | | 0.014 |
| 234678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | 0.0002 | 0.015 | U | | 0.017 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | 0.0008 | 0.014 | U | | 0.015 | U | | 0.017 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | 0.0002 | 0.017 | U | | 0.014 |
| OCDF | U | | 0.20 | U | 0.0009 | 0.029 | U | | 0.035 | U | 0.0007 | 0.028 | U | 0.0006 | 0.030 | U | 0.0005 | 0.035 | U | | 0.028 |
| Total TCDDs | U | | | U | | | U | | | 0.0014 | | | 0.0012 | | | U | | | 0.0003 | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0013 | | | 0.0007 | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0146 | | | U | | | 0.0018 | | | 0.0017 | | | 0.0014 | | | 0.0015 | | | 0.0010 | | |
| Total TCDFs | U | | | U | | | U | | | 0.0020 | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0002 | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | 0.0002 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | 0.0003 | | | U | | | 0.0004 | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0002 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0402 | | | 0.0004 | | | 0.0004 | | | 0.0008 | | | 0.0003 | | | 0.0003 | | | 0.0002 | | |

COC# 04892
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/14/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

12-27-01dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/27/01**

| Sample No. | 11467 | | | 11468 | | | 11469 | | | 11470 | | | 05861 | | | 05862 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7200 | | | 1320 | | | 5805 | | | 7230 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.015 | U | | 0.0034 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | 0.0004 | 0.076 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | 0.0001 | 0.014 | U | | 0.076 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | 0.0002 | 0.014 | U | | 0.076 | U | 0.0002 | 0.017 | U | | 0.014 | U | 0.0013 | 0.10 | U | 0.0014 | 0.10 |
| 123789-HxCDD | U | 0.0002 | 0.014 | U | | 0.076 | U | | 0.017 | U | | 0.014 | U | 0.0010 | 0.10 | U | 0.0010 | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.076 | U | | 0.017 | U | | 0.014 | 0.0081 J | | 0.10 | U | 0.0054 | 0.10 |
| OCDD | U | | 0.028 | U | | 0.15 | U | | 0.034 | U | | 0.028 | U | | 0.20 | 0.0314 J | | 0.20 |
| 2378-TCDF | U | | 0.0028 | U | | 0.015 | U | | 0.0034 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.075 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.075 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | 0.0002 J | | 0.014 | U | 0.0005 | 0.075 | U | | 0.017 | U | 0.0001 | 0.014 | U | 0.0006 | 0.10 | U | 0.0005 | 0.10 |
| 123678-HxCDF | U | 0.0001 | 0.014 | U | 0.0003 | 0.075 | 0.0001 J | | 0.017 | U | 0.0001 | 0.014 | U | 0.0010 | 0.10 | U | 0.0005 | 0.10 |
| 234678-HxCDF | U | 0.0001 | 0.014 | U | 0.0004 | 0.075 | U | | 0.017 | U | 0.0002 | 0.014 | U | 0.0004 | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.075 | U | | 0.017 | U | | 0.014 | 0.0009 J | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.075 | U | | 0.017 | U | 0.0003 | 0.014 | 0.0018 J | | 0.10 | U | 0.0010 | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.075 | U | | 0.017 | U | | 0.014 | U | 0.0016 | 0.10 | U | | 0.10 |
| OCDF | 0.0007 | | 0.028 | U | 0.0013 | 0.15 | U | | 0.034 | U | | 0.028 | U | 0.0030 | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0003 | | | U | | | U | | | 0.0002 | | | U | | | U | | |
| Total HxCDDs | 0.0002 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | 0.002 | | | U | | | 0.0081 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | 0.0001 | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0003 | | | U | | | 0.0001 | | | 0.0001 | | | 0.0013 | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0004 | | | U | | | 0.0018 | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0002 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0002 | | | 0.0011 | | | 0.0002 | | | 0.0002 | | | 0.0398 | | | 0.0401 | | |

COC# 04892

12-27-01dioair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/27/01**

| Sample No. | WG-7024-1P | | 11461 | | 11462 | | 11463 | | 11464 | | 11465 | | 11466 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 6960 | | 5790 | | 7200 | | 6720 | | 5790 | | 7230 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of MoCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of DiCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of TrCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of TeCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of PeCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of HxCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of HpCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of OcCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Sum of NoCBs | U | 10.0 | U | 1.44 | U | 1.73 | U | 1.39 | U | 1.49 | U | 1.73 | U | 1.38 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04892

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/14/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 12/27/01**

| Sample No. | 11467 | | 11468 | | 11469 | | 11470 | | 05861 | | 05862 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7200 | | 1320 | | 5805 | | 7230 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.39 | U | 7.58 | U | 1.72 | U | 1.38 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04892

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/03/02**

| Sample No. | WG-7028-1P | | 05991 | | 05993 | | 05994 | | 05995 | | 05996 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 5280 | | 5685 | | 7200 | | 5805 | | 7200 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of MoCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of DiCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of TrCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of TeCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of PeCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of HxCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of HpCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of OcCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Sum of NoCBs | U | 10.0 | U | 1.89 | U | 1.76 | U | 1.39 | U | 1.72 | U | 1.39 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04898

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 &
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/14/02

**Sampling Date 1/03/02**

| Sample No. | 05997 | | 05998 | | 05999 | | 06000 | | 06031 | | 06032 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 5565 | | 6405 | | 6630 | | 7230 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.80 | U | 1.56 | U | 1.51 | U | 1.38 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04898

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0048 | | WTC-0049 | | WTC-0043 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | C-17 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 3560 | |
| Date Collected | | - | | - | | - | | 12/27/01 | | 12/27/01 | | 12/27/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.54 | 0.35 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.035 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.035 |
| Calcium | ICAP | 4.4 | 2.5 | 5.0 | 2.5 | 4.8 | 2.5 | U | 2.5 | U | 2.5 | 2.2 | 0.7 |
| Chromium | ICAP | 0.82 | 0.13 | 0.94 | 0.13 | 0.73 | 0.13 | U | 0.13 | U | 0.13 | U | 0.035 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.07 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.07 | 0.07 |
| Iron | ICAP | 1.2 | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 1.2 | 0.18 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.03 | 0.014 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 3.5 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.035 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.07 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 14 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.035 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | 3.5 | 3.5 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.07 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.15 | 0.07 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1 x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0044 | | WTC-0045 | | WTC-0046 | | WTC-0047 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | O-18 | | O-19 | | P-5 | | P-8 | |
| Air Volume (L) | | 4626.5 | | 4680 | | 6213 | | 3690 | |
| Date Collected | | 12/27/01 | | 12/27/01 | | 12/27/01 | | 12/27/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.27 | 0.27 | 0.37 | 0.27 | U | 0.20 | 0.88 | 0.32 |
| Antimony | AA-Fur | U | 0.011 | U | 0.011 | U | 0.008 | U | 0.013 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.011 | U | 0.008 | U | 0.013 |
| Barium | ICAP | U | 0.027 | U | 0.027 | U | 0.02 | U | 0.032 |
| Beryllium | ICAP | U | 0.011 | U | 0.011 | U | 0.008 | U | 0.013 |
| Cadmium | ICAP | U | 0.027 | U | 0.027 | U | 0.02 | U | 0.032 |
| Calcium | ICAP | 1.1 | 0.54 | 1.8 | 0.53 | 0.46 | 0.40 | 3.3 | 0.64 |
| Chromium | ICAP | U | 0.027 | U | 0.027 | U | 0.02 | U | 0.032 |
| Cobalt | ICAP | U | 0.054 | U | 0.053 | U | 0.04 | U | 0.064 |
| Copper | ICAP | U | 0.054 | U | 0.053 | U | 0.04 | U | 0.064 |
| Iron | ICAP | 0.69 | 0.14 | 0.52 | 0.13 | 0.21 | 0.10 | 1.4 | 0.16 |
| Lead | AA-Fur | 0.022 | 0.011 | 0.02 | 0.011 | 0.01 | 0.008 | 0.11 | 0.013 |
| Magnesium | ICAP | U | 2.7 | U | 2.7 | U | 2.0 | U | 3.2 |
| Manganese | ICAP | U | 0.027 | U | 0.027 | U | 0.02 | 0.032 | 0.032 |
| Nickel | ICAP | U | 0.054 | U | 0.053 | U | 0.04 | U | 0.064 |
| Potassium | ICAP | U | 11 | U | 11 | U | 8.0 | U | 13 |
| Selenium | AA-Fur | U | 0.011 | U | 0.011 | U | 0.008 | U | 0.013 |
| Silver | ICAP | U | 0.027 | U | 0.027 | U | 0.02 | U | 0.032 |
| Sodium | ICAP | U | 2.7 | U | 2.7 | U | 2.0 | U | 3.2 |
| Thallium | AA-Fur | U | 0.011 | U | 0.011 | U | 0.008 | U | 0.013 |
| Vanadium | ICAP | U | 0.054 | U | 0.053 | U | 0.04 | U | 0.064 |
| Zinc | ICAP | 0.083 | 0.054 | 0.069 | 0.053 | 0.052 | 0.04 | 0.12 | 0.064 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 05863 | | 05864 | | 11491 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 3660 | |
| Date Collected | | - | | - | | - | | 12/27/01 | | 12/27/01 | | 12/27/01 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.35 | 0.34 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.04 | U | 0.014 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.04 | U | 0.014 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.034 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.014 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.034 |
| Calcium | ICAP | 4.4 | 2.5 | 5.0 | 2.5 | 4.8 | 2.5 | U | 2.5 | U | 2.5 | 1.8 | 0.68 |
| Chromium | ICAP | 0.82 | 0.13 | 0.94 | 0.13 | 0.73 | 0.13 | U | 0.13 | U | 0.13 | U | 0.034 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.068 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.068 |
| Iron | ICAP | 1.2 | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.98 | 0.17 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.04 | 0.022 | 0.014 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 3.4 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.034 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.068 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 14 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.04 | U | 0.014 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.034 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 3.4 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.04 | U | 0.014 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.068 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.099 | 0.068 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11492 | | 11493 | | 11494 | | 11495 | | 11496 | | 11497 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 3950 | | 4080 | | 300 | | 4260 | | 3830 | | 4800 | |
| Date Collected | | 12/27/01 | | 12/27/01 | | 12/27/01 | | 12/27/01 | | 12/27/01 | | 12/27/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.37 | 0.32 | 3.1 | 0.31 | U | 4.2 | 1.5 | 0.29 | 2.0 | 0.33 | 0.78 | 0.26 |
| Antimony | AA-Fur | U | 0.013 | 0.013 | 0.012 | U | 0.17 | U | 0.012 | U | 0.013 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.013 | 0.012 | 0.012 | U | 0.17 | U | 0.012 | U | 0.013 | U | 0.01 |
| Barium | ICAP | U | 0.032 | 0.07 | 0.031 | U | 0.42 | 0.042 | 0.029 | 0.065 | 0.033 | 0.031 | 0.026 |
| Beryllium | ICAP | U | 0.013 | U | 0.012 | U | 0.17 | U | 0.012 | U | 0.013 | U | 0.01 |
| Cadmium | ICAP | U | 0.032 | U | 0.031 | U | 0.42 | U | 0.029 | U | 0.033 | U | 0.026 |
| Calcium | ICAP | 1.6 | 0.63 | 32 | 0.61 | 29 | 8.3 | 15 | 0.59 | 19 | 0.65 | 4.6 | 0.52 |
| Chromium | ICAP | U | 0.032 | 0.046 | 0.031 | U | 0.42 | U | 0.029 | U | 0.033 | U | 0.026 |
| Cobalt | ICAP | U | 0.063 | U | 0.061 | U | 0.83 | U | 0.059 | U | 0.065 | U | 0.052 |
| Copper | ICAP | U | 0.063 | 0.25 | 0.061 | U | 0.83 | 0.11 | 0.059 | 0.13 | 0.065 | 0.065 | 0.052 |
| Iron | ICAP | 1.4 | 0.16 | 12 | 0.15 | 11 | 2.1 | 5.6 | 0.15 | 6.2 | 0.16 | 1.5 | 0.13 |
| Lead | AA-Fur | 0.025 | 0.013 | 0.19 | 0.012 | 0.75 | 0.17 | 0.088 | 0.012 | 0.099 | 0.013 | 0.031 | 0.01 |
| Magnesium | ICAP | U | 3.2 | 5.4 | 3.1 | U | 42 | U | 2.9 | 3.7 | 3.3 | U | 2.6 |
| Manganese | ICAP | U | 0.032 | 0.19 | 0.031 | U | 0.42 | 0.11 | 0.029 | 0.10 | 0.033 | 0.035 | 0.026 |
| Nickel | ICAP | U | 0.063 | U | 0.061 | U | 0.83 | U | 0.059 | U | 0.065 | U | 0.052 |
| Potassium | ICAP | U | 13 | U | 12 | U | 170 | U | 12 | U | 13 | U | 10 |
| Selenium | AA-Fur | U | 0.013 | U | 0.012 | U | 0.17 | U | 0.012 | U | 0.013 | U | 0.01 |
| Silver | ICAP | U | 0.032 | U | 0.031 | U | 0.42 | U | 0.029 | U | 0.033 | U | 0.026 |
| Sodium | ICAP | 4.2 | 3.2 | 4.3 | 3.1 | U | 42 | 4.8 | 2.9 | 8.7 | 3.3 | 4.6 | 2.6 |
| Thallium | AA-Fur | U | 0.013 | U | 0.012 | U | 0.17 | U | 0.012 | U | 0.013 | U | 0.01 |
| Vanadium | ICAP | U | 0.063 | U | 0.061 | U | 0.83 | U | 0.059 | U | 0.065 | U | 0.052 |
| Zinc | ICAP | 0.14 | 0.063 | 1.3 | 0.061 | 0.96 | 0.83 | 0.28 | 0.059 | 0.33 | 0.065 | 0.14 | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 11498 | | 11499 | | 11500 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END AVE | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 3840 | | 4480 | | 4290 | |
| Date Collected | | 12/27/01 | | 12/27/01 | | 12/27/01 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.9 | 0.33 | 1.7 | 0.28 | 1.5 | 0.29 |
| Antimony | AA-Fur | U | 0.013 | U | 0.011 | U | 0.012 |
| Arsenic | AA-Fur | U | 0.013 | U | 0.011 | U | 0.012 |
| Barium | ICAP | 0.053 | 0.033 | 0.048 | 0.028 | 0.034 | 0.029 |
| Beryllium | ICAP | U | 0.013 | U | 0.011 | U | 0.012 |
| Cadmium | ICAP | U | 0.033 | U | 0.028 | U | 0.029 |
| Calcium | ICAP | 12 | 0.65 | 7.6 | 0.56 | 7.1 | 0.58 |
| Chromium | ICAP | U | 0.033 | U | 0.028 | U | 0.029 |
| Cobalt | ICAP | U | 0.065 | U | 0.056 | U | 0.058 |
| Copper | ICAP | 0.15 | 0.065 | 0.084 | 0.056 | 0.07 | 0.058 |
| Iron | ICAP | 5.4 | 0.16 | 5.8 | 0.14 | 2.6 | 0.15 |
| Lead | AA-Fur | 0.055 | 0.013 | 0.044 | 0.011 | 0.037 | 0.012 |
| Magnesium | ICAP | 4.0 | 3.3 | U | 2.8 | U | 2.9 |
| Manganese | ICAP | 0.081 | 0.033 | 0.08 | 0.028 | 0.066 | 0.029 |
| Nickel | ICAP | U | 0.065 | U | 0.056 | U | 0.058 |
| Potassium | ICAP | U | 13 | U | 11 | U | 12 |
| Selenium | AA-Fur | U | 0.013 | U | 0.011 | U | 0.012 |
| Silver | ICAP | U | 0.033 | U | 0.028 | U | 0.029 |
| Sodium | ICAP | 17 | 3.3 | 5.7 | 2.8 | 3.4 | 2.9 |
| Thallium | AA-Fur | U | 0.013 | U | 0.011 | U | 0.012 |
| Vanadium | ICAP | U | 0.065 | U | 0.056 | U | 0.058 |
| Zinc | ICAP | 0.21 | 0.065 | 0.22 | 0.056 | 0.14 | 0.058 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 06033 | | 06034 | | 06001 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 3900 | |
| Date Collected | | - | | - | | - | | 01/03/02 | | 01/03/02 | | 01/03/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.32 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.032 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.032 |
| Calcium | ICAP | 3.3 | 2.5 | 3.5 | 2.5 | 3.8 | 2.5 | U | 2.5 | U | 2.5 | 0.77 | 0.64 |
| Chromium | ICAP | 0.68 | 0.13 | 0.80 | 0.13 | 0.88 | 0.13 | U | 0.13 | 0.14 | 0.13 | U | 0.032 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.064 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.064 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.93 | 0.16 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 3.2 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.032 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.064 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 13 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.032 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 3.2 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.013 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.064 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.064 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06002 | | 06003 | | 06004 | | 06005 | | 06006 | | 06007 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 3500 | | 4800 | | 4140 | | 4070 | | 4760 | | 3330 | |
| Date Collected | | 01/03/02 | | 01/03/02 | | 01/03/02 | | 01/03/02 | | 01/03/02 | | 01/03/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.36 | 0.47 | 0.26 | 1.2 | 0.30 | 3.0 | 0.31 | 1.8 | 0.26 | 2.4 | 0.38 |
| Antimony | AA-Fur | U | 0.014 | U | 0.01 | U | 0.012 | U | 0.012 | U | 0.011 | 0.049 | 0.015 |
| Arsenic | AA-Fur | U | 0.014 | U | 0.01 | U | 0.012 | 0.014 | 0.012 | U | 0.011 | 0.04 | 0.015 |
| Barium | ICAP | U | 0.036 | 0.035 | 0.026 | 0.037 | 0.03 | 0.094 | 0.031 | 0.041 | 0.026 | 0.063 | 0.038 |
| Beryllium | ICAP | U | 0.014 | U | 0.01 | U | 0.012 | U | 0.012 | U | 0.011 | U | 0.015 |
| Cadmium | ICAP | U | 0.036 | U | 0.026 | U | 0.03 | U | 0.031 | U | 0.026 | U | 0.038 |
| Calcium | ICAP | 1.1 | 0.71 | 4.0 | 0.52 | 16 | 0.60 | 34 | 0.61 | 23 | 0.53 | 26 | 0.75 |
| Chromium | ICAP | U | 0.036 | U | 0.026 | 0.032 | 0.03 | 0.054 | 0.031 | 0.054 | 0.026 | U | 0.038 |
| Cobalt | ICAP | U | 0.071 | U | 0.052 | U | 0.06 | U | 0.061 | U | 0.053 | U | 0.075 |
| Copper | ICAP | U | 0.071 | 0.054 | 0.052 | 0.12 | 0.06 | 0.17 | 0.061 | 0.087 | 0.053 | 0.49 | 0.075 |
| Iron | ICAP | 0.71 | 0.18 | 1.9 | 0.13 | 6.7 | 0.15 | 11 | 0.15 | 6.0 | 0.13 | 21 | 0.19 |
| Lead | AA-Fur | 0.026 | 0.014 | 0.038 | 0.01 | 0.086 | 0.012 | 0.18 | 0.012 | 0.063 | 0.011 | 0.19 | 0.015 |
| Magnesium | ICAP | U | 3.6 | U | 2.6 | U | 3.0 | 6.9 | 3.1 | U | 2.6 | U | 3.8 |
| Manganese | ICAP | U | 0.036 | 0.029 | 0.026 | 0.10 | 0.03 | 0.17 | 0.031 | 0.12 | 0.026 | 0.29 | 0.038 |
| Nickel | ICAP | U | 0.071 | U | 0.052 | U | 0.06 | U | 0.061 | U | 0.053 | 0.086 | 0.075 |
| Potassium | ICAP | U | 14 | U | 10 | U | 12 | U | 12 | U | 11 | U | 15 |
| Selenium | AA-Fur | U | 0.014 | U | 0.01 | U | 0.012 | U | 0.012 | U | 0.011 | U | 0.015 |
| Silver | ICAP | U | 0.036 | U | 0.026 | U | 0.03 | U | 0.031 | U | 0.026 | U | 0.038 |
| Sodium | ICAP | U | 3.6 | 3.0 | 2.6 | 9.0 | 3.0 | 92 | 3.1 | 11 | 2.6 | 10 | 3.8 |
| Thallium | AA-Fur | U | 0.014 | U | 0.01 | U | 0.012 | U | 0.012 | U | 0.011 | U | 0.015 |
| Vanadium | ICAP | U | 0.071 | U | 0.052 | U | 0.06 | U | 0.061 | U | 0.053 | U | 0.075 |
| Zinc | ICAP | U | 0.071 | 0.089 | 0.052 | 0.45 | 0.06 | 0.56 | 0.061 | 0.36 | 0.053 | 2.2 | 0.075 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06008 | | 06009 | | 06010 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END AVE | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 3300 | | 4720 | | 4050 | |
| Date Collected | | 01/03/02 | | 01/03/02 | | 01/03/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.2 | 0.38 | 0.96 | 0.26 | 0.49 | 0.31 |
| Antimony | AA-Fur | U | 0.015 | U | 0.011 | U | 0.012 |
| Arsenic | AA-Fur | U | 0.015 | U | 0.011 | U | 0.012 |
| Barium | ICAP | 0.055 | 0.038 | 0.049 | 0.026 | U | 0.031 |
| Beryllium | ICAP | U | 0.015 | U | 0.011 | U | 0.012 |
| Cadmium | ICAP | U | 0.038 | U | 0.026 | U | 0.031 |
| Calcium | ICAP | 9.4 | 0.76 | 6.0 | 0.53 | 5.0 | 0.62 |
| Chromium | ICAP | U | 0.038 | U | 0.026 | U | 0.031 |
| Cobalt | ICAP | U | 0.076 | U | 0.053 | U | 0.062 |
| Copper | ICAP | 0.08 | 0.076 | 0.061 | 0.053 | U | 0.062 |
| Iron | ICAP | 4.2 | 0.19 | 3.6 | 0.13 | 1.9 | 0.15 |
| Lead | AA-Fur | 0.052 | 0.015 | 0.047 | 0.011 | 0.024 | 0.012 |
| Magnesium | ICAP | U | 3.8 | U | 2.6 | U | 3.1 |
| Manganese | ICAP | 0.059 | 0.038 | 0.051 | 0.026 | U | 0.031 |
| Nickel | ICAP | U | 0.076 | U | 0.053 | U | 0.062 |
| Potassium | ICAP | U | 15 | U | 11 | U | 12 |
| Selenium | AA-Fur | U | 0.015 | U | 0.011 | U | 0.012 |
| Silver | ICAP | U | 0.038 | U | 0.026 | U | 0.031 |
| Sodium | ICAP | 53 | 3.8 | 24 | 2.6 | 17 | 3.1 |
| Thallium | AA-Fur | U | 0.015 | U | 0.011 | U | 0.012 |
| Vanadium | ICAP | U | 0.076 | U | 0.053 | U | 0.062 |
| Zinc | ICAP | 0.15 | 0.076 | 0.12 | 0.053 | 0.085 | 0.062 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for VOC in Air (Summa)
WA # 0-235 NYC-WTC

| Sampling Date 12/03/01 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Method Blank #1 | | 01-0133 | | 01-0157 | | Method Blank #2 | | 01-0182 | | 01-0209 | | 01-0225 | | | |
| Sample Location | 0112058-06A | | Austin Tobin Plaza -Inside | | Location R | | 0112058-06B | | South Tower- South Side | | North Tower-West Side | | North Tower-North Side | | | |
| Dilution Factor | 1.0 | | 1.49 | | 1.71 | | 1.0 | | 1.44 | | 1.55 | | 1.41 | | | |
| | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | | |
| | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | | |
| Freon 12 | U | 0.50 | 2.8 | 0.74 | U | 0.86 | U | 0.50 | 0.96 | 0.72 | 1.5 | 0.65 | 1.2 | 0.70 | | |
| Freon 114 | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Chloromethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | 7.1 J | 0.70 | | |
| Vinyl Chloride | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Bromomethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U J | 0.72 | U J | 0.65 | 0.79 J | 0.70 | | |
| Chloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Freon 11 | U | 0.50 | 1.9 | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | 1.1 | 0.65 | 0.82 | 0.70 | | |
| 1,1-Dichloroethene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Freon 113 | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Methylene Chloride | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | 0.94 | 0.72 | 0.62 | 0.65 | 1.0 | 0.70 | | |
| 1,1-Dichloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| cis-1,2-Dichloroethene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Chloroform | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,1,1-Trichloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Carbon Tetrachloride | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Benzene | U | 0.50 | 1.2 | 0.74 | U | 0.86 | U | 0.50 | 1.4 | 0.72 | 1.2 | 0.65 | 5.8 | 0.70 | | |
| 1,2-Dichloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Trichloroethene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,2-Dichloropropane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| cis-1,3-Dichloropropene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Toluene | U | 0.50 | 2.5 | 0.74 | 1.8 | 0.86 | U | 0.50 | 3.7 | 0.72 | 2.8 | 0.65 | 5.5 | 0.70 | | |
| trans-1,3-Dichloropropene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,1,2-Trichloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Tetrachloroethene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Ethylene Dibromide | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Chlorobenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Ethyl Benzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | 0.80 | 0.72 | U | 0.65 | 4.1 | 0.70 | | |
| m,p-Xylene | U | 0.50 | 2.1 | 0.74 | 0.94 | 0.86 | U | 0.50 | 2.8 | 0.72 | 1.9 | 0.65 | 2.1 | 0.70 | | |
| o-Xylene | U | 0.50 | 0.83 | 0.74 | U | 0.86 | U | 0.50 | 1.0 | 0.72 | 0.81 | 0.65 | 0.9 | 0.70 | | |
| Styrene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | 0.94 | 0.70 | | |
| 1,1,2,2-Tetrachloroethane | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,3,5-Trimethylbenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,2,4-Trimethylbenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | 0.81 | 0.72 | 0.92 | 0.65 | U | 0.70 | | |
| 1,3-Dichlorobenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,4-Dichlorobenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Chlorotoluene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,2-Dichlorobenzene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| 1,2,4-Trichlorobenzene | U | 0.50 | U J | 0.74 | U J | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Hexachlorobutadiene | U | 0.50 | U | 0.74 | U | 0.86 | U | 0.50 | U | 0.72 | U | 0.65 | U | 0.70 | | |
| Propylene | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 1,3-Butadiene | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Acetone | U | 2.0 | 6.0 | 3.0 | 4.0 | 3.4 | U | 2.0 | 9.1 | 2.9 | 8.3 | 2.6 | 14 | 2.8 | | |
| Carbon Disulfide | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 2-Propanol | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| trans-1,2-Dichloroethene | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Vinyl Acetate | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 2-Butanone (Methyl Ethyl Ketone) | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | 3.4 | 2.9 | U | 2.6 | 3.7 | 2.8 | | |
| Hexane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Tetrahydrofuran | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Cyclohexane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 1,4-Dioxane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Bromodichloromethane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 4-Methyl-2-pentanone | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 2-Hexanone | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Dibromochloromethane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Bromoform | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| 4-Ethyltoluene | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |
| Ethanol | U | 2.0 | 6.7 | 3.0 | 5.6 | 3.4 | U | 2.0 | 7.6 | 2.9 | 7.4 | 2.6 | 6.7 | 2.8 | | |
| Methyl-tert-Butyl Ether | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | 4.6 | 2.9 | 3.0 J | 2.6 | U | 2.8 | | |
| Heptane | U | 2.0 | U | 3.0 | U | 3.4 | U | 2.0 | U | 2.9 | U | 2.6 | U | 2.8 | | |

U denotes less than the MDL (not detected)
J denotes value is below the detection limit and is estimated.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/19/01**

| Sample No. | WG7013-1 | | | 05921 | | | 05922 | | | 05923 | | | 05924 | | | 05925 | | | 05926 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7200 | | | 6915 | | | 7275 | | | 7365 | | | 7320 | | | 6465 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0029 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0031 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | 0.0001 | 0.014 | U | 0.0003 | 0.014 | U | 0.0003 | 0.014 | U | 0.0004 | 0.014 | U | | 0.015 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | 0.0005 | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.015 |
| 1234678-HpCDD | 0.0046 J | | 0.10 | U | | 0.014 | U | 0.0008 | 0.014 | U | | 0.014 | U | 0.0009 | 0.014 | U | | 0.014 | U | | 0.015 |
| OCDD | U | 0.0323 | 0.20 | U | | 0.028 | U | | 0.029 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.031 |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0029 | 0.0007 J | | 0.0027 | 0.0005 J | | 0.0027 | 0.0008 J | | 0.0027 | U | | 0.0031 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | 0.0004 J | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | 0.0005 J | | 0.014 | U | | 0.014 | U | 0.0007 | 0.014 | U | | 0.015 |
| 123478-HxCDF | U | | 0.10 | 0.0001 J | | 0.014 | U | | 0.014 | 0.0004 J | | 0.014 | U | 0.0002 | 0.014 | 0.0005 J | | 0.014 | U | 0.0002 | 0.015 |
| 123678-HxCDF | 0.0009 J | | 0.10 | U | 0.0001 | 0.014 | U | | 0.014 | U | 0.0004 | 0.014 | U | 0.0002 | 0.014 | 0.0005 J | | 0.014 | U | 0.0002 | 0.015 |
| 234678-HxCDF | U | 0.0008 | 0.10 | U | 0.0001 | 0.014 | U | | 0.014 | 0.0004 J | | 0.014 | U | 0.0002 | 0.014 | 0.0007 J | | 0.014 | U | 0.0001 | 0.015 |
| 123789-HxCDF | 0.0006 J | | 0.10 | U | | 0.014 | U | | 0.014 | 0.0002 J | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.015 |
| 1234678-HpCDF | U | 0.0022 | 0.10 | U | | 0.014 | 0.0003 J | | 0.014 | 0.0011 J | | 0.014 | U | 0.0006 | 0.014 | 0.0020 J | | 0.014 | 0.0007 J | | 0.015 |
| 1234789-HpCDF | U | | 0.10 | U | 0.0002 | 0.014 | U | | 0.014 | 0.0002 J | | 0.014 | U | | 0.014 | 0.0003 J | | 0.014 | U | | 0.015 |
| OCDF | U | 0.0032 | 0.20 | U | 0.0006 | 0.028 | U | 0.0006 | 0.029 | U | 0.0008 | 0.027 | U | 0.0007 | 0.027 | U | 0.0013 | 0.027 | U | 0.0009 | 0.031 |
| Total TCDDs | U | | | U | | | U | | | 0.0033 | | | 0.0055 | | | 0.0115 | | | 0.0010 | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0015 | | | 0.0004 | | | 0.0076 | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | 0.0005 | | | 0.0017 | | | 0.0085 | | | U | | |
| Total HpCDDs | 0.0065 | | | 0.0004 | | | U | | | 0.0008 | | | U | | | U | | | 0.0006 | | |
| Total TCDFs | U | | | U | | | U | | | 0.0083 | | | 0.0045 | | | 0.0106 | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | 0.0018 | | | U | | | 0.0036 | | | U | | |
| Total HxCDFs | 0.0015 | | | 0.0001 | | | U | | | 0.0018 | | | 0.0004 | | | 0.0038 | | | 0.0003 | | |
| Total HpCDFs | 0.0011 | | | U | | | 0.0003 | | | 0.0011 | | | U | | | 0.0023 | | | 0.0007 | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0002 | | | 0.0000 | | | 0.0000 | | | 0.0005 | | | 0.0001 | | | 0.0003 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0380 | | | 0.0003 | | | 0.0004 | | | 0.0007 | | | 0.0004 | | | 0.0006 | | | 0.0003 | | |

COC# 04884
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/10/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 12/19/01**

| Sample No. | 05927 | | | 05928 | | | 05929 | | | 05930 | | | 05961 | | | 05962 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6435 | | | 7515 | | | 7560 | | | 6495 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0031 | U | | 0.0027 | U | | 0.0026 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | 0.0023 J | | 0.10 |
| 123789-HxCDD | U | | 0.016 | 0.0002 J | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | 0.0098 J | | 0.10 |
| OCDD | U | | 0.031 | U | | 0.027 | U | | 0.026 | U | | 0.031 | U | | 0.20 | 0.0426 J | | 0.20 |
| 2378-TCDF | U | | 0.0031 | U | | 0.0027 | U | | 0.0026 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | 0.0001 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.016 | U | 0.0001 | 0.013 | U | 0.0001 | 0.013 | U | 0.0001 | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | 0.0001 | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.016 | U | 0.0003 | 0.013 | 0.0002 J | | 0.013 | U | 0.0002 | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | 0.0006 | 0.031 | U | 0.0004 | 0.027 | U | 0.0004 | 0.026 | U | | 0.031 | U | 0.004 | 0.20 | 0.0045 J | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0002 | | | U | | | U | | |
| Total HxCDDs | U | | | 0.0006 | | | U | | | U | | | U | | | 0.0023 | | |
| Total HpCDDs | 0.0006 | | | 0.0005 | | | 0.0004 | | | U | | | 0.0117 | | | 0.0098 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | 0.0002 | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0002 | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0004 | | |
| TEQ (ND=1/2) | 0.0003 | | | 0.0003 | | | 0.0003 | | | 0.0003 | | | 0.0400 | | | 0.0400 | | |

COC# 04884

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/15/01**

| Sample No. | WG6301-1 | | | 11281 | | | 11282 | | | 11283 | | | 11284 | | | 11285 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R- TAGA | | | A-Barclay & West Broadway | | | B-Church & Dey St. | | | Loc 3B Church & Vesey | | |
| Volume (Liters) | 0 | | | 7515 | | | 7515 | | | 7350 | | | 7365 | | | 7350 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 |
| 12378-PeCDD | U | 0.0175 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDD | U | 0.0142 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDD | 0.0157J | | 0.10 | 0.0010 J | | 0.013 | 0.0009 J | | 0.013 | 0.0029 J | | 0.014 | 0.0040 J | | 0.014 | 0.0034 J | | 0.014 |
| 123789-HxCDD | 0.0187 J | | 0.10 | U | 0.0011 | 0.013 | U | | 0.013 | 0.0018 J | | 0.014 | 0.0024 J | | 0.014 | 0.0023 J | | 0.014 |
| 1234678-HpCDD | 0.0281 J | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | 0.0200 | | 0.014 | 0.0204 | | 0.014 |
| OCDD | 0.0690 J | | 0.20 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 |
| 2379-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | 0.0020 J | | 0.0027 | 0.0023 J | | 0.0027 | 0.0018 J | | 0.0027 |
| 12378-PeCDF | 0.0153 J | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 23478-PeCDF | 0.0138 J | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDF | U | 0.0139 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDF | U | 0.0152 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 234678-HxCDF | U | 0.0150 | 0.10 | 0.0009 J | | 0.013 | 0.0008 J | | 0.013 | U | 0.0021 | 0.014 | 0.0033 J | | 0.014 | 0.0030 J | | 0.014 |
| 123789-HxCDF | U | 0.0270 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDF | U | 0.0166 | 0.10 | U | 0.0013 | 0.013 | U | 0.0008 | 0.013 | 0.0049 J | | 0.014 | 0.0100 J | | 0.014 | 0.0097 J | | 0.014 |
| 1234789-HpCDF | U | 0.0176 | 0.10 | U | 0.0013 | 0.013 | U | | 0.013 | 0.0008 J | | 0.014 | 0.0013 J | | 0.014 | U | | 0.014 |
| OCDF | U | 0.0566 | 0.20 | 0.0047 J | | 0.027 | U | 0.0036 | 0.027 | 0.0041 J | | 0.027 | 0.0069 J | | 0.027 | 0.0055 J | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | 0.310 | | | 0.286 | | | 0.294 | | |
| Total PeCDDs | U | | | U | | | U | | | 0.143 | | | 0.199 | | | 0.191 | | |
| Total HxCDDs | 0.0344 | | | 0.0020 | | | 0.0009 | | | 0.0994 | | | 0.168 | | | 0.155 | | |
| Total HpCDDs | 0.0281 | | | U | | | 0.0021 | | | 0.0266 | | | 0.0482 | | | 0.0456 | | |
| Total TCDFs | U | | | U | | | U | | | 0.103 | | | 0.101 | | | 0.0859 | | |
| Total PeCDFs | 0.0350 | | | 0.0025 | | | U | | | 0.0246 | | | 0.0393 | | | 0.0314 | | |
| Total HxCDFs | U | | | 0.0047 | | | 0.0035 | | | 0.0117 | | | 0.0312 | | | 0.0228 | | |
| Total HpCDFs | U | | | U | | | U | | | 0.0058 | | | 0.0135 | | | 0.0097 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0115 | | | 0.0002 | | | 0.0002 | | | 0.0007 | | | 0.0016 | | | 0.0016 | | |
| TEQ (ND=1/2) | 0.0155 | | | 0.0019 | | | 0.0012 | | | 0.0040 | | | 0.0034 | | | 0.0054 | | |

COC# 04138
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 12/11/01

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 11/15/01**

| Sample No. | 11286 | | | 11287 | | | 11288 | | | 11289 | | | 11290 | | | 11265 | | | 11266 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C Liberty St. & Church | | | D-Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7365 | | | 7350 | | | 7365 | | | 7305 | | | 7275 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0128 J | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0126 J | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | 0.0140 | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | 0.0123 | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0239 J | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.20 | 0.0498 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.020 | U | 0.0023 | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0127 J | | 0.10 |
| 23478-PeCDF | U | 0.0011 | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0118 J | | 0.10 |
| 123478-HxCDF | U | 0.0013 | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0096 J | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0126 J | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0029 | 0.10 | U | 0.0106 | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | 0.0229 J | | 0.10 |
| 1234678-HpCDF | 0.0038 J | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | 0.0116 | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | 0.0141 | 0.10 |
| OCDF | U | 0.0032 | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.20 | U | 0.0297 | 0.20 |
| Total TCDDs | 0.0680 | | | U | | | U | | | 0.0004 | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0457 | | | U | | | U | | | U | | | U | | | U | | | 0.0209 | | |
| Total HxCDDs | 0.0275 | | | U | | | U | | | U | | | U | | | U | | | 0.0126 | | |
| Total HpCDDs | 0.0146 | | | U | | | U | | | U | | | U | | | U | | | 0.0425 | | |
| Total TCDFs | 0.0226 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0064 | | | U | | | U | | | U | | | U | | | U | | | 0.0358 | | |
| Total HxCDFs | 0.0029 | | | U | | | U | | | U | | | U | | | U | | | 0.0452 | | |
| Total HpCDFs | 0.0038 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0190 | | |
| TEQ (ND=1/2) | 0.0018 | | | 0.0008 | | | 0.0008 | | | 0.0008 | | | 0.0008 | | | 0.0069 | | | 0.0232 | | |

COC# 04138

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: R. T. John L. B. J. Hollow U.S. EPA: Norrell

Date: 1-15-02 RST Site Project Manager Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2646 | 2647 | 2607 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0751 | 0755 | 0806 | | | |
| Stop Time | 1351 | 1355 | 1357 | | | |
| Run Time (Minutes) | 360 | 360 | 350 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 8.5 (N.M) ~~135.2~~ | 4.0 | | | |
| Maximum Concentration (ug/m3) | 279.1 | 342.0 | 241.8 | | | |
| Average Concentration (TWA) (ug/m3) | 132.6 | 135.2 (N.M) ~~2.5~~ | 103.1 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Early

DATE: 1-15-02 A.M.

RST: R.B.T., John L., E.J. Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K' L | 0755 | ND | 1 | 21.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0803 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0810 | ND | ND | 20.7 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0815 | ND | ND | 20.7 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0823 | ND | ND | 20.5 | 4 | ND | ND | ND | ND | ND | ND | ND |
| F | 0825 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| A | 0834 | ND | ND | 20.4 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 0842 | ND | ND | 20.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 0848 | ND | ND | 20.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| H | 0857 | ND | ND | 20.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 0902 | ND | ND | 20.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| D | 0908 | ND | ND | 20.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 0913 | .4 | ND | 20.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 0917 | ND | ND | 20.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| U | 0920 | ND | ND | 20.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| V | 0922 | ND | ND | 20.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| S | 0942 | ND | ND | 20.9 | 4 | ND | ND | ND | ND | ND | ND | ND |
| P | 0946 | ND | ND | 20.4 | 11 | ND | ND | ND | ND | ND | ND | ND |
| E | 0951 | ND | ND | 20.4 | 7 | ND | ND | ND | ND | ND | ND | ND |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Late

DATE: 1/15/02 RST: B. Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1158 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1203 | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 1206 | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| J | 1210 | ND | ND | 20.9 | 4 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1212 | ND | ND | 20.8 | 8 | ND | ND | ND | ND | ND | ND | ND |
| F | 1214 | ND | ND | 20.8 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 1220 | ND | ND | 20.8 | 10 | ND | ND | ND | ND | ND | ND | ND |
| C | 1224 | ND | ND | 20.8 | 7 | ND | ND | ND | ND | ND | ND | ND |
| B | 1226 | ND | ND | 20.8 | 1 | ND | ND | ND | ND | ND | ND | ND |
| H | 1239 | ND | ND | 20.7 | 7 | ND | ND | ND | ND | ND | ND | ND |
| I | 1242 | ND | ND | 20.7 | 5 | ND | ND | ND | ND | ND | ND | ND |
| D | 1250 | ND | ND | 20.7 | 4 | ND | ND | ND | ND | ND | ND | ND |
| K | 1258 | ND | ND | 20.8 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 1300 | ND | ND | 20.8 | 6 | ND | ND | ND | ND | ND | ND | ND |
| U | 1303 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1305 | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 1319 | ND | ND | 21.0 | 5 | ND | ND | ND | ND | ND | ND | ND |
| P | 1323 | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1326 | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |

Brian J. Hoffman

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/15/02**

| File Name | NYC773 | NYC774 | NYC775 | NYC776 | NYC778 | NYC777 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07349 | A07350 | A07352 | A07351 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **88** | RL |
| Acetone | RL | RL | RL | RL | **460** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **23** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **58** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | **29** | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **49** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **29** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | **22** | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | **22** | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **55** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, January 17, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:00 p.m. on 1/17**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 41 samples taken in and around ground zero on January 13 and January 14. EPA also sampled for asbestos at two additional lower Manhattan locations on January 11 and January 12. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. One sample, taken on January 14 at Location V (Pier 6 Bus Sign), showed 72 structures per square millimeter, slightly above the AHERA standard. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,814, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 11 and January 12. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Fifteen air samples collected on January 13 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 15 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 16 at Location L (northeast side of Stuyvesant High School), Location N (south side of Pier 25) and

Location R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 16 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOCs on January 16.

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds on January 16. Other than low levels of carbon monoxide, nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, January 17, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 13, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location N) was not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.
Note: Includes results for Location T from Jan 12 (0001 - 1122 hrs).

NYC / ER (Jan 14, 0001 - 1200 hrs)

1 of 20 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location V-duplicate (72 S/mm$^2$).
Note: The other (co-located) sample collected at Location V contained 8.89 S/mm$^2$.
1 sample (Location W) was not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 13, 0734 - 2155)

All 15 samples analyzed were below the TEM AHERA standard.
4 samples (Locations W-11, W-12A, B-14, and T-16) were not analyzed due to overloading of particulates.
1 location (Location O-19) was not sampled since access was not available.
Note: Windy conditions existed throughout the day.
Note: Includes results for Location O-19 from Jan 12 (1013 - 2213 hrs).

Fresh Kills (Jan 15) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-2) based on daily average concentrations.
Limited monitoring due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Jan 11 - 12) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 12 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
Samples were not collected from Sites 7 and 8 on January 12 due to equipment

malfunctions.

NYC / ER (Jan 16) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 0.0 to 96.6 ug/$m^3$ with an average of 8.9 ug/$m^3$.
Station N values ranged from 0.0 to 117.3 ug/$m^3$ with an average of 6.9 ug/$m^3$.
Station R values ranged from 0.0 to 121.5 ug/$m^3$ with an average of 10.1 ug/$m^3$.

NYC / ER (Jan 16) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

Direct Reading Instruments

NYC / ER (Jan 16)

Low levels of carbon monoxide noted at all stations during the morning monitoring period.
Otherwise, nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/15/02**
**Sampling Date and Time: 01/13/02 1200 to 2359 and 01/12/02 0001 to 1122 [a]**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/13/02 | RST-03193 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03194 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | - | N | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/13/02 | RST-03195 | J | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03196 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03197 | Q-Duplicate | 648 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0048 |
| 01/13/02 | RST-03198 | F | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03199 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03200 | C | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03201 | B | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03202 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03203 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03204 | D | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03205 | K | 711 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/12/02 | RST-03206 | T [a] | 682 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/13/02 | RST-03207 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03208 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03209 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03210 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03211 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03212 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/13/02 | RST-03213 | W | 720 | Air | 8.28 | 0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/14/02 | FB011402 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/14/02 | TB011402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
(a) - Sample RST-03206 was collected 01/12/02 from 0001 to 1122

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-13-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/14/02 0001 to 1200**

**Data Validation Date: 01/16/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | t/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/14/02 | RST-03214 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03215 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03216 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03217 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03218 | Q | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/14/02 | RST-03219 | F | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/14/02 | RST-03220 | F-Duplicate | 397 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0078 |
| 01/14/02 | RST-03221 | A | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03222 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03223 | B | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03224 | H | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03225 | I | 681 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/14/02 | RST-03226 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03227 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03228 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03229 | V | 719 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/14/02 | RST-03230 | V-Duplicate | 668 | Air | <7.0 | <0.004 | 9*** | 0 | 72.00 | 0.0415 |
| 01/14/02 | RST-03231 | S | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/14/02 | RST-03232 | P | 685 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/14/02 | RST-03233 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | - | W | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/14/02 | FB011402 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/14/02 | TB011402 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-14-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/13/02 0734 to 2155[a]**

**Data Validation Date: 01/15/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/13/02 | LF02150 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02151 | P-2 | 310 | Air | <7.0 | <0.009 | 0 | 0 | <7.87 | <0.0098 |
| 01/13/02 | LF02152 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02153 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02154 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02155 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02156 | P-7 | 579 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0052 |
| 01/13/02 | LF02157 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02158 | W-11 | 720 | Air | 17.83 | 0.010 | NA [1] | NA [1] | NA [1] | NA [1] |
| 01/13/02 | LF02159 | W-12A | 720 | Air | 24.20 | 0.013 | NA [1] | NA [1] | NA [1] | NA [1] |
| 01/13/02 | LF02160 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02161 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02162 | B-14 | 720 | Air | <7.0 | <0.004 | NA [1] | NA [1] | NA [1] | NA [1] |
| 01/13/02 | LF02163 | T-15 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02164 | T-16 | 720 | Air | <7.0 | <0.004 | NA [1] | NA [1] | NA [1] | NA [1] |
| 01/13/02 | LF02165 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02166 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/12/02 | LF02167[a] | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02168 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/13/02 | LF02169 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/13/02 | LF02170 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
NA[3] - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted
[a] - Sample LF02167 was collected on 01/12/2002 1013 to 2213

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-13-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/11/02 1200 to 2400**

**Data Validation Date: 01/15/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/11/02 | 7093-18-0106 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/11/02 | 7093-19-0106 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/11/02 | 7093-15-0104 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/11/02 | 7094-09-0094 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/11/02 | 7096-12-0100 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/11/02 | 7095-98-0100 | Brooklyn PS #274 | 1090*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 01/11/02 | 7097-18-0097 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

ext-01-11-02pm.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/12/02 1200 to 2400**

**Data Validation Date: 01/15/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/12/02 | 7093-18-0107 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/12/02 | 7093-19-0107 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/12/02 | 7093-15-0105 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/12/02 | 7094-09-0095 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/12/02 | 7096-12-0101 | Queens PS #199 | 1098*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 01/12/02 | 7095-98-0101 | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/12/02 | 7097-18-0098 | Staten Island PS #44 | NS | Air | NS | NS | NS | NS | NS | NS |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

ext-01-12-02pm.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 15, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 36 | 09:00:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 28.8 | 267.6 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/16/02**

| File Name | NYC782 | NYC783 | NYC784 | NYC785 | NYC787 | NYC786 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07353 | A07354 | A07356 | A07355 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: B. Hoffman U.S. EPA: Norrell

Date: 1/16/02 RST Site Project Manager: Brennan

| Location | N | R | L | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2607 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2 | 2 | 2 | | | |
| Start Time | 0754 | 0804 | 0810 | | | |
| Stop Time | 1419 | 1412 | 1416 | | | |
| Run Time (Minutes) | 384 | 367 | 366 | | | |
| Minimum Concentration (ug/m3) | 0.0 | 0.0 | 0.0 | | | |
| Maximum Concentration (ug/m3) | 117.3 | 121.5 | 96.6 | | | |
| Average Concentration (TWA) (ug/m3) | 6.9 | 10.1 | 8.9 | | | |

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Early

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/16/02 RST: B. Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 0755 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M | 0825 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| L | 0815 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| J | 0820 | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0825 | ND | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| F | 0830 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| A | 0835 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 0840 | ND | ND | 21.1 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 0845 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| H | 0900 | ND | ND | 21.1 | 7 | ND | ND | ND | ND | ND | ND | ND |
| I | 0905 | ND | ND | 21.1 | 6 | ND | ND | ND | ND | ND | ND | ND |
| D | 0910 | ND | ND | 21.1 | 8 | ND | ND | ND | ND | ND | ND | ND |
| K | 0915 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 0930 | ND | ND | 21.1 | 4 | ND | ND | ND | ND | ND | ND | ND |
| U | 0933 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| V | 0940 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| S | 1005 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1015 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| E | 1020 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |

SRM-1

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Late

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/16/02 RST: B. Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl ppm | HF ppm | $COCl_2$ ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1210 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1215 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1220 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1235 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 1240 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1245 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 1250 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 1255 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 1300 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 1310 | ND | ND | 21.1 | 9 | ND | ND | ND | ND | ND | ND | ND |
| I | 1321 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1330 | 0.2 | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| K | 1335 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 1340 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| U | 1343 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1346 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1354 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| O | 1357 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1400 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, January 18, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 1:00 p.m. on 1/18**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 38 samples taken in and around ground zero on January 14 and January 15. EPA also sampled for asbestos at two additional lower Manhattan locations on January 11 and January 12. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,854, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 13. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 16 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 17 at Location L (northeast side of Stuyvesant High School), Location N (south side of Pier 25) and Location R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 17 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the

levels at a moment in time. OSHA's protective standards set a permissible exposure limit (FEL) averaged over an 8-hour day.

All samples taken on January 17 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of benzene, and levels of other VOCs did not exceed OSHA standards.

**Direct Air Readings -** EPA did air monitoring in and around ground zero for a number of compounds on January 17. Nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, January 18, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 14, 0815 - 2230)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills (Jan 15, 0749 - 2206)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills (Jan 16) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-2) based on daily average concentrations.
Limited monitoring due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Jan 13) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 17) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
Instruments operated approximately 6½ hours.
Station L values ranged from 0.3 to 377.0 ug/m$^3$ with an average of 42.7 ug/m$^3$.
Station N values ranged from 0.0 to 95.7 ug/m$^3$ with an average of 37.5 ug/m$^3$.
a. Station R values ranged from 0.3 to 234.1 ug/m$^3$ with an average of 39.0 ug/m$^3$.

NYC / ER (Jan 15) - Volatile Organics (Mobile Laboratory)

**Errata**: Previously reported on the cover page of the January 16 Sampling Situation Report that the Volatile Organics (Mobile Laboratory) presented on that day were from January 12. The results posted in that report were actually from January 15.

NYC / ER (Jan 17) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.
A limited number of VOCs were detected above the detection limit (20 ppbv) in only the North and South Tower ground level samples.

Direct Reading Instruments

NYC / ER (Jan 17)

Nothing of significance reported.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/14/02 0815 to 2230**

**Data Validation Date: 01/16/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/14/02 | LF02171 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0042 |
| 01/14/02 | LF02172 | P-2 | 422 | Air | <7.0 | <0.006 | 0 | 0 | <8.75 | <0.0080 |
| 01/14/02 | LF02173 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02174 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02175 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02176 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02177 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02178 | P-8 | 210 | Air | <7.0 | <0.013 | 0 | 0 | <8.75 | <0.0160 |
| 01/14/02 | LF02179 | W-11 | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02180 | W-12A | 720 | Air | 11.46 | 0.006 | 1*** | 0 | 8.75 | 0.0047 |
| 01/14/02 | LF02181 | W-12B | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 01/14/02 | LF02182 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02183 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02184 | T-15 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02185 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02186 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02187 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02188 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/14/02 | LF02189 | MPHS-20 | 703 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/14/02 | LF02190 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/14/02 | LF02191 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
NA[3] - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-14-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/15/02 0749 to 2206**

**Data Validation Date: 01/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/15/02 | LF02192 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02193 | P-2 | 500 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0061 |
| 01/15/02 | LF02194 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02195 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02196 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02197 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02198 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02199 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02200 | W-11 | 155**** | Air | 26.75 | 0.066 | 0 | 0 | <8.75 | <0.0217 |
| 01/15/02 | LF02201 | W-12A | 720 | Air | 10.19 | 0.005 | 2*** | 0 | 17.50 | 0.0094 |
| 01/15/02 | LF02202 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02203 | B-13 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/15/02 | LF02204 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02205 | T-15 | 720 | Air | 45.86 | 0.025 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02206 | T-16 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02207 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02208 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02209 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02210 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/15/02 | LF02211 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/15/02 | LF02212 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-15-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/13/02 1200 to 2400**

**Data Validation Date: 01/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/13/02 | 7093-18-0108 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/13/02 | 7093-19-0108 | Chambers Street | 1344 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/13/02 | 7093-15-0106 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/13/02 | 7094-09-0096 | Bronx PS #154 | 1398 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/13/02 | 7096-12-0102 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/13/02 | 7095-98-0102 | Brooklyn PS #274 | 1090*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 01/13/02 | 7097-18-0099 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 16, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 42 | 10:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 6.5 | 120.7 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NO QC EVALUATION HAS BEEN PERFORMED.**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/17/02**

| File Name | NYC790 | NYC791 | NYC792 | NYC793 | NYC795 | NYC794 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07357 | A07358 | A07360 | A07359 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | 56 | RL |
| Acetone | RL | RL | RL | RL | 91 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 96 |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | 23 | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | 22 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

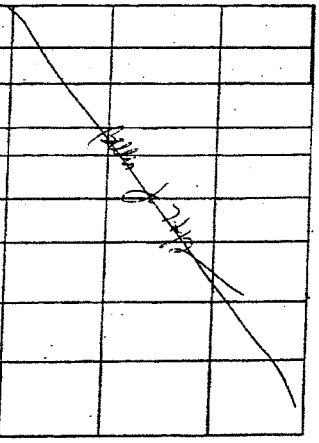
Sampler: R. Tiberi

U.S. EPA: Norrell

Date: 1-17-02

RST Site Project Manager: Brennan

| Location | R | L | N |
|---|---|---|---|
| DataRAM ID No. | 2646 | 2647 | 2607 |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0758 | 0802 | 0809 |
| Stop Time | 1432 | 1437 | 1434 |
| Run Time (Minutes) | 394 | 395 | 385 |
| Minimum Concentration (ug/m3) | .3 | .3 | .0 |
| Maximum Concentration (ug/m3) | 234.1 | 377. | 95.7 |
| Average Concentration (TWA) (ug/m3) | 39.0 | 42.7 | 37.5 |



**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/17/02 A.M. RST: J.A. Tichenor

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0803 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0813 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 0818 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0824 | ND | ND | 22.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0829 | ND | ND | 20.7 | 2 | ND | ND | ND | ND | ND | ND | ND |
| F | 0834 | ND | ND | 20.6 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 0743 | ND | ND | 20.6 | ND | ND | ND | ND | ND | ND | ND | ND |
| C | 0848 | ND | ND | 20.6 | 1 | ND | ND | ND | ND | ND | ND | ND |
| B | 0853 | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0940 | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 0947 | ND | ND | 20.5 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 0958 | ND | ND | 20.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1009 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1012 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1023 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1025 | ND | ND | 20.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1031 | ND | ND | 21.0 | ND | ND | ND | ND | ND | ND | ND | ND |

JLT

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1/17/02 RST: B. Hoffman

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1227 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1230 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1235 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1239 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 1242 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| F | 1247 | ND | ND | 20.9 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 1256 | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 1259 | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| B | 1304 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 1316 | ND | ND | 20.9 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 1336 | ND | ND | 20.9 | 3 | ND | ND | ND | ND | ND | ND | ND |
| T | 1338 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1342 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1345 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1351 | ND | ND | 20.9 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1359 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1403 | ND | ND | 20.9 | ND | ND | ND | ND | ND | ND | ND | ND |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, January 19-21, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 10:30 a.m. on 1/22**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 86 samples taken in and around ground zero on January 14 through January 16. EPA also sampled for asbestos at two additional lower Manhattan locations on January 14 through January 16. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,946, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from January 14 through January 16. None showed exceedances of the AHERA re-entry standard. (A sample was not collected from P.S. 274 on January 14 due to an equipment malfunction.)

**Staten Island Landfill:**
**Air (Asbestos)** - Fifty-six air samples collected from January 16 through January 18 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 17 and January 20 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from January 11 through January 18 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard

(NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from January 11 through January 18 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 18 at Location N (south side of Pier 25) and Location R (northwest side of Stuyvesant High School), and on January 20 at Location L (northeast side of Stuyvesant High School) and Locations N & R. All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 18 through Janueary 20 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 18 through January 20 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of benzene, and levels of other VOCs did not exceed OSHA standards. (The January 19 South Tower sample was not analyzed due to an equipment malfunction.)

**Direct Air Readings** - EPA did air monitoring in and around ground zero for a number of compounds from January 18 through January 20. Several readings noted during the morning monitoring period of January 19 were above the carbon monoxide NAAQS (8-hour average) of 9 ppm. Otherwise, nothing of significance was noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, January 21, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 14, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location S) was not collected due to an equipment malfunction.
Note: Location T will no longer be sampled on weekend days due to the unavailability of access.

NYC / ER (Jan 15, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 15, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not collected due to an equipment malfunction.

NYC / ER (Jan 16, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 16, 0748 - 2300)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-6) was not collected due to an equipment malfunction.

Fresh Kills (Jan 17, 0740 - 2225)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 18, 0740 - 2205)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 17) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-2) based on daily average concentrations.

Fresh Kills (Jan 18) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to an equipment malfunction.

Fresh Kills (Jan 19) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to the weather conditions.

Fresh Kills (Jan 20) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-2) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Jan 14 - 16) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 20 samples were collected from these monitoring sites.
A sample was not collected from Site 7 on January 14 due to an equipment malfunction.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 11) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.41 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***15.25 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***14.51 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 11) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***22.38 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 12) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.13 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.34 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***8.56 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 12) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***13.11 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 13) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.50 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.45 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***7.13 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 13) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***10.84 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 14) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.63 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.83 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***13.44 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 14) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***26.12 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 15) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***19.68 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***19.61 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***24.19 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 15) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***37.81 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 16) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.90 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***9.38 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.69 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 16) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.16 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 17) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.56 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.04 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***15.74 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 17) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***28.67 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 18) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***12.07 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.75 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***13.75 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 18) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***25.73 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 18) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations N and R) were below the OSHA TWA.
Instruments operated approximately 5½ hours.
Measurements were not conducted at Station L due to an equipment malfunction.
Station N values ranged from 0.0 to 83.2 ug/m³ with an average of 25.0 ug/m³.
Station R values ranged from 0.0 to 129.4 ug/m³ with an average of 30.5 ug/m³.

NYC / ER (Jan 19) - Particulate Monitoring (Dataram)

No particulate measurements were conducted at Stations L, N, and R due to the weather conditions.

NYC / ER (Jan 20) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 0.4 to 63.1 ug/m³ with an average of 24.5 ug/m³.
Station N values ranged from 0.0 to 118.9 ug/m³ with an average of 17.5 ug/m³.
Station R values ranged from 9.4 to 244.7 ug/m³ with an average of 30.3 ug/m³.

NYC / ER (Jan 18) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at one location, volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 19) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in any of the three samples collected (Washing Tent, Austin Tobin Plaza, and North Tower), including in the debris area at ground level.
Limited number of VOCs detected above the detection limit (20 ppbv); all in the North Tower ground level sample.
The South Tower sample was not analyzed because it was lost due to a tear in the Tedlar bag.

NYC / ER (Jan 20) - Volatile Organics (Mobile Laboratory)

Aside from two compounds detected above the detection limit (20 ppbv) at two of the locations (North and South Tower ground level), volatile organic compounds were not detected at any of the four locations above the detection limit (20 ppbv).

Direct Reading Instruments

NYC / ER (Jan 18)

Low levels of carbon monoxide noted at nearly all stations during the afternoon monitoring period.
Otherwise, nothing of significance reported.

NYC / ER (Jan 19)

Several readings noted during the morning monitoring period above the carbon monoxide NAAQS (8-hour average) of 9 ppm.
Low levels of carbon monoxide noted at nearly all stations during the afternoon monitoring period.

NYC / ER (Jan 20)

Nothing of significance reported.
Real-time air monitoring will no longer be conducted after January 21.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/14/02 1200 to 2359**

**Data Validation Date: 01/18/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/14/02 | RST-03234 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03235 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03236 | N | 587 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 01/14/02 | RST-03237 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03238 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03239 | F | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03240 | A-Duplicate | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03241 | A | 390 | Air | 12.74 | 0.013 | 0 | 0 | <8.00 | <0.0079 |
| 01/14/02 | RST-03242 | C | 623 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0049 |
| 01/14/02 | RST-03243 | C-Duplicate | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03244 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03245 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03246 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03247 | D | 674 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/14/02 | RST-03248 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03249 | T | 715 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03250 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03251 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | - | S | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/14/02 | RST-03252 | P | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03253 | E | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/14/02 | RST-03254 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | FB011502 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/15/02 | TB011502 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-14-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/18/2002**
**Sampling Date and Time: 01/15/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/15/02 | RST-03255 | L | 489 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 01/15/02 | RST-03256 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03257 | N | 637 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/15/02 | RST-03258 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03259 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03260 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03261 | A | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03262 | C | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03263 | B | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/15/02 | RST-03264 | B-Duplicate | 380 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0081 |
| 01/15/02 | RST-03265 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03266 | I | 570 | Air | 12.10 | 0.008 | 0 | 0 | <8.00 | <0.0054 |
| 01/15/02 | RST-03267 | D | 720 | Air | 16.56 | 0.009 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03268 | D-Duplicate | 596 | Air | 12.74 | 0.008 | 0 | 0 | <8.00 | <0.0052 |
| 01/15/02 | RST-03269 | K | 577 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 01/15/02 | RST-03270 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03271 | U | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/15/02 | RST-03272 | V | 683 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/15/02 | RST-03273 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03274 | P | 400 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0077 |
| 01/15/02 | RST-03275 | E | 401 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0077 |
| 01/15/02 | RST-03276 | W | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | FB011502 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/15/02 | TB011502 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-15-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/16/02 0748 to 2300**

**Data Validation Date: 01/18/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/16/02 | LF02213 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02214 | P-2 | 491 | Air | <7.0 | <0.0055 | 0 | 0 | <7.87 | <0.0062 |
| 01/16/02 | LF02215 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02216 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02217 | P-5 | 714 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02218 | P-6 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/16/02 | LF02219 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02220 | P-8 | 578 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0058 |
| 01/16/02 | LF02221 | W-11 | 720 | Air | 15.29 | 0.008 | 1*** | 1*** | 17.50 | 0.0094 |
| 01/16/02 | LF02222 | W-12A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02223 | W-12B | 720 | Air | 13.38 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02224 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02225 | B-14 | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.50 | 0.0094 |
| 01/16/02 | LF02226 | T-15 | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02227 | T-16 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02228 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02229 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02230 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/16/02 | LF02231 | MPHS-20 | 698 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/16/02 | LF02232 | Lot Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |
| 01/16/02 | LF02233 | Trip Blank | 0 | Air | <7.0 | n/a | 0 | 0 | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-16-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/14/02 1200 to 2400**

**Data Validation Date: 01/18/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/14/02 | 7093-18-0109 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/14/02 | 7093-19-0109 | Chambers Street | 1264 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/14/02 | 7093-15-0107 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/14/02 | 7094-09-0097 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/14/02 | 7096-12-0103 | Queens PS #199 | 988*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 01/14/02 | 7095-98-0103 | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/14/02 | 7097-18-0100 | Staten Island PS #44 | 1198*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/18/2002**
**Sampling Date and Time: 01/15/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/15/02 | RST-03277 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03278 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03279 | M-1 Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03280 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03281 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03282 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03283 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | - | F | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/15/02 | RST-03284 | A | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03285 | C | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03286 | B | 663 | Air | 7.64 | 0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/15/02 | RST-03287 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03288 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03289 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03290 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03291 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03292 | U | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03293 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03294 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03295 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03296 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/15/02 | RST-03297 | W | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | FB011602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/16/02 | TB011602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-15-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/16/02 0001 to 1200**

**Data Validation Date: 01/18/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/16/02 | RST-03298 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03299 | M-1 | 688 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/16/02 | RST-03300 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03301 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03302 | J | 720 | Air | <7.0 | <0.004 | 0 | 2*** | 17.78 | 0.0095 |
| 01/16/02 | RST-03303 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03304 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03305 | F | 355 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0087 |
| 01/16/02 | RST-03306 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03307 | C | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/16/02 | RST-03308 | B | 720 | Air | <7.0 | <0.004 | 6*** | 0 | 53.33 | 0.0285 |
| 01/16/02 | RST-03309 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03310 | I | 530 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 01/16/02 | RST-03311 | D | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03312 | K | 418 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0074 |
| 01/16/02 | RST-03313 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03314 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03315 | V | 700 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/16/02 | RST-03316 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03317 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03318 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03319 | W | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | FB011602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/16/02 | TB011602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-16-02-am.xls

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 01/17/02 0740 to 2225

Data Validation Date: 01/20/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/17/02 | LF02234 | P-1 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/17/02 | LF02235 | P-2 | 476 | Air | <7.0 | <0.006 | 0 | 0 | <8.75 | <0.0071 |
| 01/17/02 | LF02236 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02237 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02238 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02239 | P-6 | 580 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0052 |
| 01/17/02 | LF02240 | P-7 | 694 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0044 |
| 01/17/02 | LF02241 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02242 | W-11 | 720 | Air | 19.11 | 0.010 | 2*** | 0 | 17.50 | 0.0094 |
| 01/17/02 | LF02243 | W-12A | 720 | Air | 9.55 | 0.005 | 3*** | 0 | 26.25 | 0.0140 |
| 01/17/02 | LF02244 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02245 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02246 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02247 | T-15 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02248 | T-16 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02249 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02250 | O-18 | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/17/02 | LF02251 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/17/02 | LF02252 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/17/02 | LF02253 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/17/02 | LF02254 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-17-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/18/02 0740 to 2205**

**Data Validation Date: 01/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/18/02 | LF02255 | P-1 | 693 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0044 |
| 01/18/02 | LF02256 | P-2 | 436 | Air | <7.0 | <0.006 | 0 | 0 | <5.62 | <0.0050 |
| 01/18/02 | LF02257 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02258 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02259 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02260 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02261 | P-7 | 712 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02262 | P-8 | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/18/02 | LF02263 | W-11 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02264 | W-12A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02265 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02266 | B-13 | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02267 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02268 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02269 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02270 | O-17 | 654 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/18/02 | LF02271 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02272 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/18/02 | LF02273 | MPHS-20 | 697 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/18/02 | LF02274 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/18/02 | LF02275 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-18-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/15/02 1200 to 2400**

**Data Validation Date: 01/18/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/15/02 | 7093-18-0110 | Park Row | 1440 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 01/15/02 | 7093-19-0110 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/15/02 | 7093-15-0108 | Manhattan PS #143 | 1356 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 01/15/02 | 7094-09-0098 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/15/02 | 7096-12-0104 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/15/02 | 7095-98-0104 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/15/02 | 7097-18-0101 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/16/02 1200 to 2400**

**Data Validation Date: 01/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc* |
| 01/16/02 | 7093-18-0111 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/16/02 | 7093-19-0111 | Chambers Street | 1344 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/16/02 | 7093-15-0109 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/16/02 | 7094-09-0099 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/16/02 | 7096-12-0105 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/16/02 | 7095-98-0105 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/16/02 | 7097-18-0102 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 17, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 23 | 05:45:00 | 10 | 00:15:00 | 100 | 0.0 | 11.9 | 24.3 | 163.1 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 20, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 2295 | 1 | 26 | 06:30:00 | 10 | 00:15:00 | 100 | 0.0 | 0.0 | 11.3 | 86.9 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/20/02**

| File Name | NYC813 | NYC814 | NYC815 | NYC816 | NYC818 | NYC817 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07369 | A07370 | A07372 | A07371 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **120** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **47** |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/19/02**

| File Name | NYC806 | NYC807 | NYC808 | NYC809 | NYC810 | |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07365 | A07366 | A07368 | A07367 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **37** | NR [1] |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | |
| Dichlorodifluoromethane | RL | RL | RL | RL | **100** | |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | |
| Chloromethane | RL | RL | RL | RL | RL | |
| Vinyl Chloride | RL | RL | RL | RL | RL | |
| 1,3-Butadiene | RL | RL | RL | RL | RL | |
| Bromomethane | RL | RL | RL | RL | RL | |
| Chloroethane | RL | RL | RL | RL | RL | |
| Trichlorofluoromethane | RL | RL | RL | RL | **57** | |
| Isopropyl Alcohol | RL | RL | RL | RL | **120** | |
| Acetone | RL | RL | RL | RL | **95** | |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | |
| 3-Chloropropene | RL | RL | RL | RL | RL | |
| Methylene Chloride | RL | RL | RL | RL | RL | |
| MTBE | RL | RL | RL | RL | RL | |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | |
| Hexane | RL | RL | RL | RL | RL | |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | |
| Vinyl Acetate | RL | RL | RL | RL | RL | |
| 2-Butanone | RL | RL | RL | RL | RL | |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | |
| Ethyl Acetate | RL | RL | RL | RL | RL | |
| Chloroform | RL | RL | RL | RL | RL | |
| Tetrahydrofuran | RL | RL | RL | RL | RL | |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | **31** | |
| Cyclohexane | RL | RL | RL | RL | **45** | |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | |
| Benzene | RL | RL | RL | RL | RL | |
| Heptane | RL | RL | RL | RL | RL | |
| Trichloroethene | RL | RL | RL | RL | **120** | |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | |
| 1,4-Dioxane | RL | RL | RL | RL | RL | |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | |
| Toluene | RL | RL | RL | RL | RL | |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | |
| 2-Hexanone | RL | RL | RL | RL | RL | |
| Tetrachloroethene | RL | RL | RL | RL | RL | |
| Dibromochloromethane | RL | RL | RL | RL | RL | |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | |
| Chlorobenzene | RL | RL | RL | RL | RL | |
| Ethylbenzene | RL | RL | RL | RL | RL | |
| m&p-Xylenes | RL | RL | RL | RL | RL | |
| 0-Xylene | RL | RL | RL | RL | RL | |
| Styrene | RL | RL | RL | RL | RL | |
| Bromoform | RL | RL | RL | RL | RL | |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | |
| Benzyl Chloride | RL | RL | RL | RL | RL | |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/18/02**

| File Name | NYC798 | NYC799 | NYC800 | NYC801 | NYC803 | NYC802 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07361 | A07362 | A07364 | A07363 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 50 |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J.R. Tichenor U.S. EPA: Norrell

Date: 1-20-02 RST Site Project Manager: Brennan

| Location | R | L | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2607 | 2646 | 2647 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0820 | 0824 | 0840 | | | |
| Stop Time | 1429 | 1438 | 1440 | | | |
| Run Time (Minutes) | 369 | 373 | 359 | | | |
| Minimum Concentration (ug/m3) | 9.4 | 0.4 | 0.0 | | | |
| Maximum Concentration (ug/m3) | 244.7 | 63.1 | 118.9 | | | |
| Average Concentration (TWA) (ug/m3) | 38.3 | 24.5 | 17.5 | | | |

Page 1 of 1

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: J BRENNAN

U.S. EPA: Norrell

Date: 1/15/02

RST Site Project Manager: Brennan

| Location | R | 1 | N | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 1607 | 2267 | 2646 | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | 2.0 | | | |
| Start Time | 0534 | ~~0819~~ 0819 | 0534 | | | |
| Stop Time | 1355 | 1356 | 1359 | | | |
| Run Time (Minutes) | 340.5 | | 324.5 | | | |
| Minimum Concentration (ug/m3) | 0.0 | | 0.0 | | | |
| Maximum Concentration (ug/m3) | 129.4 | | 83.2 | | | |
| Average Concentration (TWA) (ug/m3) | 30.5 ~~0.0~~ JSL | | 25.0 | | | |

No ODS

Data logged but would not download to computer, therefore data could not be recorded.

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

1 of 2

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-20-02 A.M. RST: R. Tilson

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0825 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0832 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| N | 0839 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 0848 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0855 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| F | 0902 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 0910 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 0916 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| B | 0920 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0930 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0935 | ND | ND | 21.1 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 0955 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 1000 | ND | ND | 21.1 | 3 | ND | ND | ND | ND | ND | ND | ND |
| U | 1005 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| V | 1040 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1105 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1007 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1013 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |

Page 1 of 2

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

2 of 2

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-20-02 P.M. RST: JR Tickner

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl | HF | $COCl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1224 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1226 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1230 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| J | 1232 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| Q | 1240 | 0.2 | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| F | 1245 | 0.4 ~~B.G~~ | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 1252 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| C | 1258 | 1.1 | ND | 21.3 | 10 | ND | ND | ND | ND | ND | ND | ND |
| B | 1303 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| H | 131 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| I | 1315 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| D | 1319 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| K | 1324 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 1359 | ~~ND~~ B.G | NO | 21.2 | 2 | NO | NO | NO | NO | NO | NO | NO |
| V | 1400 | 0.2 | NO | 21.2 | 2 | NO | NO | NO | NO | NO | NO | NO |
| S | 1328 | ND | ND | 21.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1329 | ND | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| E | 1334 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |

JKT

**Uni... States Environmental Protection Ag...**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-19-02 (EARLY) RST: BRENNAN

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0810 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0815 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0820 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| J | 0825 | ND | ND | 21.2 | 10 | ND | ND | ND | ND | ND | ND | ND |
| Q | 0840 | ND | ND | 21.2 | 9 | ND | ND | ND | ND | ND | ND | ND |
| F | 0845 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| A | 0850 | ND | ND | 21.2 | 11 | ND | ND | ND | ND | ND | ND | ND |
| C | 0900 | ND | ND | 21.2 | 17 | ND | ND | ND | ND | ND | ND | ND |
| B | 0905 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| H | 0915 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| I | 0920 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0930 | ND | ND | 21.2 | 6 | ND | ND | ND | ND | ND | ND | ND |
| K | 0940 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 0950 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| S | 0955 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| E | 1005 | ND | ND | 21.2 | 7 | ND | ND | ND | ND | ND | ND | ND |
| U | 1030 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1035 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |

HCl, HF, $COCl_2$ - SPM

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-18-02 Last RST: Brennan

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1210 | ND | ND | 21.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 1215 | ND | ND | 21.4 | 2 | ND | ND | ND | ND | ND | ND | ND |
| N | 1220 | ND | ND | 21.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1225 | ND | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| O | 1230 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| F | 1235 | ND | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| A | 1240 | ND | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| C | 1245 | ND | ND | 21.3 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 1247 | ND | ND | 21.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| H | 1300 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| I | 1305 | ND | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 1310 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 1315 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| T | 1320 | ND | ND | 21.3 | 4 | ND | ND | ND | ND | ND | ND | ND |
| U | 1322 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| V | 1324 | ND | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |
| S | 1330 | ND | ND | 21.3 | 3 | ND | ND | ND | ND | ND | ND | ND |
| P | 1332 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1334 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |

HF, HCl, COCl - 5002

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-15-02 A.M. RST: J.R. Tolson

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (PPM) | HF (PPM) | $COCl_2$ (PPB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 0835 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| M1 | 0837 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 0836 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 0841 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| Q | 0845 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| F | 0850 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| A | 0853 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| C | 0905 | ND | ND | 21.3 | 2 | ND | ND | ND | ND | ND | ND | ND |
| B | 0911 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| H | 0920 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 0930 | ND | ND | 21.1 | ND | ND | ND | ND | ND | ND | ND | ND |
| D | 0940 | ND | ND | 21.1 | 2 | ND | ND | ND | ND | ND | ND | ND |
| K | 0945 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| U | 0953 | ND | ND | 21.3 | 5 | ND | ND | ND | ND | ND | ND | ND |
| V | 1000 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| S | 1005 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| P | 1020 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| E | 1025 | ND | ND | 21.3 | ND | ND | ND | ND | ND | ND | ND | ND |
| T | 0830 | ND | ND | 21.3 | 1 | ND | ND | ND | ND | ND | ND | ND |

HF, HCl, $COCl_2$ - SKM

**United States Environmental Protection Agency**
**Removal Support Team**
**Air Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

DATE: 1-19-02 (LATE) RST: BRENNAN

| Location | Time | PID (units) | LEL (%) | $O_2$ (%) | CO (ppm) | $H_2S$ (ppm) | $SO_2$ (ppm) | $Cl_2$ (ppm) | HCN (ppm) | HCl (ppm) | HF (ppm) | $COCl_2$ (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 1220 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| M | 1223 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| N | 1226 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| J | 1230 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| O | 1234 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| F | 1236 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| A | 1241 | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| C | 1245 | ND | ND | 21.2 | 5 | ND | ND | ND | ND | ND | ND | ND |
| B | 1247 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| H | 1252 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| I | 1252 | ND | ND | 21.2 | 3 | ND | ND | ND | ND | ND | ND | ND |
| D | 1310 | ND | ND | 21.2 | 7 | ND | ND | ND | ND | ND | ND | ND |
| K | 1315 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| S | 1324 | ND | ND | 21.2 | 1 | ND | ND | ND | ND | ND | ND | ND |
| P | 1328 | ND | ND | 21.2 | 2 | ND | ND | ND | ND | ND | ND | ND |
| E | 1331 | ND | ND | 21.2 | 4 | ND | ND | ND | ND | ND | ND | ND |
| U | 1345 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| V | 1349 | ND | ND | 21.2 | ND | ND | ND | ND | ND | ND | ND | ND |

HCl, HF, $COCl_2$ - SAM

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, January 22, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on 1/22**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 44 samples taken in and around ground zero on January 17 and January 18. EPA also sampled for asbestos at two additional lower Manhattan locations on January 17. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 4,992, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 17. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Fourteen air samples collected on January19 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted on January 19 and January 20 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 $ug/m^3$ for all stations. These results were also less than 40 $ug/m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was

conducted on January 19 and January 20 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 21 at Location N (south side of Pier 25) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 21 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 21 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of benzene.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, January 22, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 16, 1200 - 2359 hrs)

Results pending.

NYC / ER (Jan 17, 0001 - 1200 hrs)

Results pending.

NYC / ER (Jan 17, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 18, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 19, 0743 - 2200)

All 14 samples analyzed were below the TEM AHERA standard.
4 samples (Locations W-11, W-12A, W-12B, and T-16) were not analyzed due to overloading of particulates.
1 sample (Location O-17) was not collected due to an equipment malfunction.

Ambient Air Sampling Locations

NYC / ER (Jan 17) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 19) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.26 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.86 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.33 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 19) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.89 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 20) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.07 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.27 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***13.42 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 20) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.54 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 21) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
Instruments operated just under 2 hours due to the weather conditions.
Measurements were not conducted at Station R.
Station L values ranged from 19.9 to 86.1 ug/m$^3$ with an average of 51.7 ug/m$^3$.
Station N values ranged from 26.8 to 180.9 ug/m$^3$ with an average of 53.6 ug/m$^3$.

NYC / ER (Jan 21) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), includin in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/21/2002**
**Sampling Date and Time: 01/17/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 01/17/02 | RST-03363 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03364 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03365 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03366 | M-1 Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03367 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03368 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03369 | Q | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03370 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03371 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03372 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03373 | B | 464 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 01/17/02 | RST-03374 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03375 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03376 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03377 | K | 38**** | Air | <7.0 | <0.071 | 0 | 0 | <8.00 | <0.0811 |
| 01/17/02 | RST-03378 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03379 | U | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03380 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03381 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03382 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03383 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03384 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | FB011802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/18/02 | TB011802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-17-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/21/2002**
**Sampling Date and Time: 01/18/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/18/02 | RST-03385 | L | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03386 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03387 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03388 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03389 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03390 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03391 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03392 | F | 706 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/18/02 | RST-03393 | A | 577 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 01/18/02 | RST-03394 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03395 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03396 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03397 | I | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/18/02 | RST-03398 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03399 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03400 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03401 | U | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03402 | V | 558 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0055 |
| 01/18/02 | RST-03403 | S | 571 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/18/02 | RST-03404 | P | 666 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/18/02 | RST-03405 | E | 572 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/18/02 | RST-03406 | W | 720 | Air | 11.46 | 0.006 | 1*** | 0 | 8.89 | 0.0048 |
| 01/18/02 | FB011802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/18/02 | TB011802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/19/02 0743 to 2200**

**Data Validation Date: 01/21/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/19/02 | LF02276 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02277 | P-2 | 464 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0065 |
| 01/19/02 | LF02278 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02279 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02280 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02281 | P-6 | 484 | Air | <7.0 | <0.006 | 0 | 1*** | 7.87 | 0.0063 |
| 01/19/02 | LF02282 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02283 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02284 | W-11 | 720 | Air | 25.48 | 0.014 | NA (1) | NA (1) | NA (1) | NA (1) |
| 01/19/02 | LF02285 | W-12A | 720 | Air | 28.03 | 0.015 | NA (1) | NA (1) | NA (1) | NA (1) |
| 01/19/02 | LF02286 | W-12B | 720 | Air | 10.19 | 0.005 | NA (1) | NA (1) | NA (1) | NA (1) |
| 01/19/02 | LF02287 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02288 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02289 | T-15 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02290 | T-16 | 720 | Air | <7.0 | <0.004 | NA (1) | NA (1) | NA (1) | NA (1) |
| 01/19/02 | LF02291 | O-17 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/19/02 | LF02292 | O-18 | 710 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02293 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02294 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/19/02 | LF02295 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/19/02 | LF02296 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-19-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/17/02 1200 to 2400**

**Data Validation Date: 01/21/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/17/02 | 7093-18-0112 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7093-19-0112 | Chambers Street | 1422 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7093-15-0110 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7094-09-0100 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7096-12-0106 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7095-98-0106 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/17/02 | 7097-18-0103 | Staten Island PS #44 | 1440 [a] | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
[a] - volume not calculated on chain of custody form
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**Removal Support Team**
**DataRAM Monitoring Work Sheet**

Roy F. Weston, Inc.
EPA Contract No. 68-W-00-113

Site: World Trade Center

Sampler: Zak Tschenet (N.A.)

U.S. EPA: Norrell

Date: 1-24-02

RST Site Project Manager: Brennan

| Location | L | N | | | | |
|---|---|---|---|---|---|---|
| DataRAM ID No. | 2647 | 2646 | | | | |
| Flow Rate (Liters / Minute) | 2.0 | 2.0 | | | | |
| Start Time | 0814 | 0828 | | | | |
| Stop Time | 1012 | 1014 ~~1044~~ | | | | |
| Run Time (Minutes) | 118 | 106 | | | | |
| Minimum Concentration (ug/m3) | 19.9 | 26.8 | | | | |
| Maximum Concentration (ug/m3) | 86.1 | 120.9 | | | | |
| Average Concentration (TWA) (ug/m3) | 51.7 | 53.6 | | | | |

No ODS (sampling stalk) for 3rd dataram, did not set out @ Station R.

Stopped sampling @ ~10:15 due to Rain.

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/21/02**

| File Name | NYC821 | NYC822 | NYC823 | NYC824 | NYC826 | NYC825 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07373 | A07374 | A07376 | A07375 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **88** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **25** |
| Dichlorodifluoromethane | RL | RL | RL | RL | **23** | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | **38** | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **28** | RL |
| Acetone | RL | RL | RL | RL | **720** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **100** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | **24** | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | **25** |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | **67** | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | **51** | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **45** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | **33** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **38** | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | **62** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, January 23, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 11:30 p.m. on 1/23**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 125 samples taken in and around ground zero from January 16 through January 20. EPA also sampled for asbestos at two additional lower Manhattan locations on January 18. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,119, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 18. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Eighteen air samples collected on January 20 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 22 at Location N (south side of Pier 25) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 22 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL)

averaged over an 8-hour day.

All samples taken on January 22 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, January 23, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 16, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 17, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location C) was not collected due to an equipment malfunction.

NYC / ER (Jan 18, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.
Note: Low sample volume recorded.

NYC / ER (Jan 19, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.
Note: Low sample volume recorded.

NYC / ER (Jan 19, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Jan 20, 0001 - 1200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations B and Q) were not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.
Note: Low sample volume recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 20, 0745 - 2234)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location T-16) was not collected due to an equipment malfunction.

Fresh Kills (Jan 21) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to the weather conditions.

Ambient Air Sampling Locations

NYC / ER (Jan 18) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 22) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Measurements were not conducted at Station R.
Station L values ranged from 0.0 to 108.2 ug/$m^3$ with an average of 19.1 ug/$m^3$.
Station N values ranged from 0.2 to 212.3 ug/$m^3$ with an average of 18.6 ug/$m^3$.

NYC / ER (Jan 22) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/18/02**
**Sampling Date and Time: 01/16/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 01/16/02 | RST-03320 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03321 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03322 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03323 | J | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03324 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03325 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03326 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03327 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03328 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03329 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03330 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03331 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03332 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03333 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03334 | T-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03335 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03336 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03337 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03338 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03339 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03340 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/16/02 | RST-03341 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | FB011702 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/17/02 | TB011702 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-16-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/17/02 0001 to 1200**

**Data Validation Date: 01/18/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/17/02 | RST-03342 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03343 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03344 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03345 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03346 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03347 | F | 716 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03348 | A | 704 | Air | <7.0 | <0.004 | 1*** | 1*** | 17.78 | 0.0097 |
| 01/17/02 | - | C | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/17/02 | RST-03349 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03350 | H | 708 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/17/02 | RST-03351 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03352 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03353 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03354 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03355 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03356 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03357 | V-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03358 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03359 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | RST-03360 | P | 680 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/17/02 | RST-03361 | E | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/17/02 | RST-03362 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/17/02 | FB011702 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/17/02 | TB011702 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not appficable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-17-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/21/2002**
**Sampling Date and Time: 01/18/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/18/02 | RST-03407 | L | 2**** | Air | <7.0 | <1.349 | 0 | 0 | <8.00 | <1.5400 |
| 01/18/02 | RST-03408 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03409 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03410 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03411 | Q | 498 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0062 |
| 01/18/02 | RST-03412 | F | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/18/02 | RST-03413 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03414 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03415 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03416 | I | 639 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/18/02 | RST-03417 | H | 596 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0052 |
| 01/18/02 | RST-03418 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03419 | D-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03420 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03421 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03422 | S | 679 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/18/02 | RST-03423 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03424 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03425 | U | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | - | T | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/18/02 | RST-03426 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/18/02 | RST-03427 | W | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | FB011902 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/19/02 | TB011902 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted due to no access to station location

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-18-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/21/2002**
**Sampling Date and Time: 01/19/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/19/02 | RST-03428 | L | 709 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03429 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03430 | N | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/19/02 | RST-03431 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03432 | Q | 367 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0084 |
| 01/19/02 | RST-03433 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03434 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03435 | C | 720 | Air | 7.01 | 0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/19/02 | RST-03436 | B | 609 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0056 |
| 01/19/02 | RST-03437 | H | 281 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0110 |
| 01/19/02 | RST-03438 | I | 665 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/19/02 | RST-03439 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03440 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/19/02 | RST-03441 | K-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03442 | S | 683 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0045 |
| 01/19/02 | RST-03443 | P | 697 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/19/02 | RST-03444 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03445 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03446 | U | 608 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0051 |
| 01/19/02 | RST-03447 | V | 679 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/19/02 | RST-03448 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | FB011902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/19/02 | TB011902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Key:**
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*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/19/02 1200 to 2359**

**Data Validation Date: 01/22/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/19/02 | RST-03449 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03450 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03451 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03452 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03453 | Q | 464 | Air | <7.0 | <0.006 | 1*** | 0 | 8.00 | 0.0066 |
| 01/19/02 | RST-03454 | F | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03455 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03456 | C | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/19/02 | RST-03457 | C-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03458 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03459 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03460 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03461 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03462 | K | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03463 | S | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03464 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03465 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03466 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03467 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03468 | V-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/19/02 | RST-03469 | W | 720 | Air | 12.10 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | FB012002 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/20/02 | TB012002 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

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**Key:**
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*** Chrysotile

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-19-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/22/02**
**Sampling Date and Time: 01/20/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/20/02 | RST-03470 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03471 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03472 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03473 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | - | Q | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | RST-03474 | F | 660 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/20/02 | RST-03475 | A | 685 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/20/02 | RST-03476 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | - | B | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | RST-03477 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03478 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03479 | I | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03480 | D | 270 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0114 |
| 01/20/02 | RST-03481 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03482 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03483 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03484 | E | 567 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/20/02 | RST-03485 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03486 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03487 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03488 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | FB012002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/20/02 | TB012002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-20-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/20/02 0745 to 2234**

**Data Validation Date: 01/22/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/20/02 | LF02297 | P-1 | 592 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0051 |
| 01/20/02 | LF02298 | P-2 | 437 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0069 |
| 01/20/02 | LF02299 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02300 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02301 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02302 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02303 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02304 | P-8 | 626 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0048 |
| 01/20/02 | LF02305 | W-11 | 720 | Air | 34.39 | 0.018 | 1*** | 0 | 8.75 | 0.0047 |
| 01/20/02 | LF02306 | W-12A | 720 | Air | 34.39 | 0.018 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02307 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02308 | B-13 | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/20/02 | LF02309 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02310 | T-15 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02311 | T-16 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | LF02312 | O-17 | 685 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/20/02 | LF02313 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02314 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02315 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/20/02 | LF02316 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/20/02 | LF02317 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-20-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/18/02 1200 to 2400**

**Data Validation Date: 01/21/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/18/02 | 7093-18-0113 | Park Row | 1184*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/18/02 | 7093-19-0113 | Chambers Street | 1276 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 01/18/02 | 7093-15-0111 | Manhattan IS #143 | 1336 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/18/02 | 7094-09-0101 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/18/02 | 7096-12-0107 | Queens PS #199 | 1148*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 01/18/02 | 7095-98-0107 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/18/02 | 7097-18-0104 | Staten Island PS #44 | 1324 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 22, 2002

| Location | L | N | |
|---|---|---|---|
| **DataRAM I.D. No.** | 2647 | 2646 | |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | |
| **Start Time** | 0812 | 0824 | |
| **Stop Time** | 1423 | 1425 | |
| **Run Time (minutes)** | 370.5 | 361 | |
| **Minimum Concentration ($ug/m^3$)** | 0.0 | 0.2 | |
| **Maximum Concentration ($ug/m^3$)** | 108.2 | 212.3 | |
| **Average Concentration ($ug/m^3$)** | 19.1 | 18.6 | |

NO QC EVALUATION HAS BEEN PERFORMED;
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/22/02**

| File Name | NYC830 | NYC831 | NYC832 | NYC833 | NYC835 | NYC834 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07377 | A07378 | A07380 | A07379 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, January 24, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:15 p.m. on 1/24**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 40 samples taken in and around ground zero on January 20 and January 21. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,159, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Staten Island Landfill:**
**Air (Asbestos)** - Nineteen air samples collected on January 21 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on January 22 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 23 at Location L (northeast side of Stuyvesant High School), Location N (south side of Pier 25) and Location R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Dioxin** - A total of 13 samples were collected during the period of December 14 to January 7 at several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 23 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the

levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 23 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, January 24, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 20, 1200 - 2359 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations A and N) were not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.
Note: Low sample volume recorded.

NYC / ER (Jan 21, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 21, 0750 - Jan 22, 0030)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 22) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Dec 14 - Jan 7) - Dioxin (EPA-ORD)

Twelve (12) 72-hour samples were collected during this period at Park Row (4 samples), Chambers St./West St. (7 samples), and Albany St. (1 sample) at roof top locations.
One (1) 16-hour sample was collected (due to equipment problems) during this period at Park Row at a roof top location.
None of the samples collected were above the EPA Removal Action guidelines (based on a 30-year exposure).
**Note**: The analytical results for 10 of the 13 samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Jan 23) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 7.3 to 108.3 ug/$m^3$ with an average of 22.6 ug/$m^3$.
Station N values ranged from 4.6 to 93.9 ug/$m^3$ with an average of 14.6 ug/$m^3$.
Station R values ranged from 5.0 to 99.8 ug/$m^3$ with an average of 12.9 ug/$m^3$.

NYC / ER (Jan 23) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/23/2002**
**Sampling Date and Time: 01/20/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/20/02 | RST-03489 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03490 | L-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03491 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03492 | M-1 Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | - | N | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | RST-03493 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03494 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03495 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | - | A | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | RST-03496 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03497 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03498 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03499 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03500 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03501 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03502 | U | 700 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0049 |
| 01/20/02 | RST-03503 | V | 180**** | Air | <7.0 | <0.015 | 0 | 0 | <8.00 | <0.0171 |
| 01/20/02 | RST-03504 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03505 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03506 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/20/02 | RST-03507 | W | 663 | Air | 12.74 | 0.007 | 0 | 0 | <8.00 | <0.0046 |
| 01/21/02 | FB012102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/21/02 | TB012102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-20-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/23/2002**
**Sampling Date and Time: 01/21/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/21/02 | RST-03508 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03509 | M-1 | 645 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/21/02 | RST-03510 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03511 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03512 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03513 | J-Duplicate | 680 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0045 |
| 01/21/02 | RST-03514 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03515 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03516 | A | 678 | Air | 11.46 | 0.0065 | 0 | 0 | <8.00 | <0.0045 |
| 01/21/02 | RST-03517 | C | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03518 | B | 614 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 01/21/02 | RST-03519 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03520 | I | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/21/02 | RST-03521 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03522 | K | 696 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/21/02 | RST-03523 | U | 651 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/21/02 | RST-03524 | V | 581 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 01/21/02 | RST-03525 | S | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/21/02 | RST-03526 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03527 | E | 686 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/21/02 | RST-03528 | W | 720 | Air | 7.64 | 0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/21/02 | FB012102 | Field Blank | 0 | Air | <7.0 | n/a | NA(1) | NA(1) | NA(2) | NA(2) |
| 01/21/02 | TB012102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-21-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/21/02 0750 to 01/22/02 0030**

**Data Validation Date: 01/23/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/21/02 | LF02318 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02319 | P-2 | 474 | Air | <7.0 | <0.006 | 0 | 0 | <8.75 | <0.0071 |
| 01/21/02 | LF02320 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02321 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02322 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02323 | P-6 | 536 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0063 |
| 01/21/02 | LF02324 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02325 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02326 | W-11 | 720 | Air | 15.29 | 0.008 | 1*** | 0 | 8.75 | 0.0047 |
| 01/21/02 | LF02327 | W-12A | 720 | Air | 30.57 | 0.016 | 2*** | 0 | 17.50 | 0.0094 |
| 01/21/02 | LF02328 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02329 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02330 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02331 | T-15 | 720 | Air | 19.11 | 0.010 | 1*** | 0 | 8.75 | 0.0047 |
| 01/21/02 | LF02332 | T-16 | 720 | Air | 34.39 | 0.018 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02333 | O-17 | 437 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0069 |
| 01/21/02 | LF02334 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02335 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02336 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/21/02 | LF02337 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/21/02 | LF02338 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**January 22, 2002**

| Location | Longitude | Latitude | DataRam ID | Tag # | Logged Points | Elapsed Time | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 2 | -74.198262 | 40.566883 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 3 | -74.198685 | 40.570054 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 4 | -74.201380 | 40.569790 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 5 | -74.205873 | 40.568892 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 6 | -74.207406 | 40.563818 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 7 | -74.205414 | 40.560434 | 0 | 1 | 0 | 00:00:00 | 10 | 00:15:00 | 0 | 0.0 | 0 | 0 | 0 |
| 8 | -74.203019 | 40.561915 | 2295 | 1 | 34 | 08:30:00 | 10 | 00:15:00 | 0 | 0.0 | 2.1 | 10.3 | 156.5 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 23, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2607 | 2646 | 2647 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0804 | 0818 | 0804 |
| **Stop Time** | 1406 | 1412 | 1406 |
| **Run Time (minutes)** | 362 | 354 | 362 |
| **Minimum Concentration ($ug/m^3$)** | 7.3 | 4.6 | 5.0 |
| **Maximum Concentration ($ug/m^3$)** | 108.3 | 93.9 | 99.8 |
| **Average Concentration ($ug/m^3$)** | 22.6 | 14.6 | 12.9 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/23/02**

| File Name | NYC838 | NYC839 | NYC840 | NYC841 | NYC843 | NYC842 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | Plume | Plume |
| Sample Number | | | A07381 | A07382 | A07384 | A07383 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Friday, January 25, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on 1/25**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 85 samples taken in and around ground zero from January 21 through January 23. EPA also sampled for asbestos at two additional lower Manhattan locations from January 19 through January 21. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,250, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**
**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from January 19 through January 21. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**
**Air (Asbestos)** - Thirty-four air samples collected on January 22 and January 23 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Dioxin** - A total of 19 samples were collected on January 3 and January 8 at several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Polyaromatic Hydrocarbons (PAH's)** - A total of 20 samples were collected on December 27 and January 3 at several locations in Lower Manhattan. PAH's were not detected.

**PCB's** - A total of 10 samples were collected on January 8 at several locations in Lower Manhattan. PCB's were not detected.

**Silicates** - A total of 20 samples were collected on January 8 and January 10 at several locations in Lower Manhattan. Silicates were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 24 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 24 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, January 25, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 21, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location Q) was not collected due to an equipment malfunction.

NYC / ER (Jan 22, 0001 - 1200 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
2 samples (Locations C and E-duplicate) were not collected due to an equipment malfunction.

NYC / ER (Jan 22, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 23, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 22, 0748 - 2220)

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-2) was not collected due to an equipment malfunction.
2 samples (Locations T-15 and T-16) were not analyzed due to overloading of particulates.

Fresh Kills (Jan 23, 0740 - 2220)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location O-17) was not collected due to an equipment malfunction.

Fresh Kills (Jan 23) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to the weather conditions.

Ambient Air Sampling Locations

NYC / ER (Dec 14 - Jan 7) - Dioxin (EPA-ORD)

**Errata**: Previously reported there was one (1) 16-hour sample collected at Park Row. The sample was actually a 72-hour sample. Therefore in total, there were thirteen (13) 72-hour samples collected during this period at Park Row (5 samples), Chambers St./West St. (7 samples), and Albany St. (1 sample) at roof top locations. None of the analytical results are impacted by this correction.

NYC / ER (Jan 3) - Dioxin

All 9 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
1 sample (Location R) was not collected due to sampling equipment damage.
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 8) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Dec 27) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 3) - PAHs

All 10 samples analyzed did not detect any PAHs

NYC / ER (Jan 8) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 8) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Jan 10) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Jan 19 -21) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 20 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 23) - Particulate Monitoring (Dataram)

No particulate measurements were conducted at Stations L, N, and R due to the weather conditions.

NYC / ER (Jan 24) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.
A limited number (3) of VOCs were detected above the detection limit (20 ppbv) in only the North Tower ground level samples.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/24/02**
**Sampling Date and Time: 01/21/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/21/02 | RST-03529 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03530 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03531 | N | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03532 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | - | Q | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/21/02 | RST-03533 | F | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03534 | A | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03535 | C | 720 | Air | 14.01 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03536 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03537 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03538 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03539 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03540 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03541 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03542 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03543 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03544 | P-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03545 | E | 573 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/21/02 | RST-03546 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03547 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03548 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/21/02 | RST-03549 | W | 720 | Air | 10.19 | 0.005 | 2*** | 0 | 17.78 | 0.0095 |
| 01/21/02 | FB012102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/21/02 | TB012102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-21-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/22/02 0001 to 1200**

**Data Validation Date: 01/24/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/22/02 | RST-03550 | L | 613 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 01/22/02 | RST-03551 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03552 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03553 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03554 | Q | 638 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/22/02 | RST-03555 | F | 720 | Air | 7.64 | 0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/22/02 | RST-03556 | A | 719 | Air | 12.74 | 0.007 | 1*** | 0 | 8.89 | 0.0048 |
| 01/22/02 | - | C | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/22/02 | RST-03557 | B | 686 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/22/02 | RST-03558 | H | 680 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/22/02 | RST-03559 | I | 644 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/22/02 | RST-03560 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03561 | D | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03562 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03563 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03564 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03565 | E | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/22/02 | - | E-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/22/02 | RST-03566 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03567 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03568 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03569 | W | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/22/02 | FB012202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/22/02 | TB012202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-22-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/22/02 0748 to 2220**

**Data Validation Date: 01/24/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/22/02 | LF02339 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02340 | P-2 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/22/02 | LF02341 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02342 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02343 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02344 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02345 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02346 | P-8 | 708 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/22/02 | LF02347 | W-11 | 720 | Air | 26.75 | 0.014 | 1**** | 1**** | 17.50 | 0.0094 |
| 01/22/02 | LF02348 | W-12A | 720 | Air | 19.11 | 0.010 | 2*** | 0 | 17.50 | 0.0094 |
| 01/22/02 | LF02349 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02350 | B-13 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/22/02 | LF02351 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02352 | T-15 | 720 | Air | 99.36 | 0.053 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/22/02 | LF02353 | T-16 | 720 | Air | 19.11 | 0.010 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/22/02 | LF02354 | O-17 | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/22/02 | LF02355 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02356 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02357 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/22/02 | LF02358 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/22/02 | LF02359 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Amosite

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
NA(3) - Not analyzed for PCM or TEM due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-22-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/19/02 1200 to 2400**

**Data Validation Date: 01/24/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/19/02 | 7093-18-0114 | Park Row | 1176*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 01/19/02 | 7093-19-0114 | Chambers Street | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 01/19/02 | 7093-15-0112 | Manhattan PS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/19/02 | 7094-09-0102 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/19/02 | 7096-12-0108 | Queens PS #199 | 1416 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/19/02 | 7095-98-0108 | Brooklyn PS #274 | 990*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 01/19/02 | 7097-18-0105 | Staten Island PS #44 | 1334 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

ext-01-19-02pm.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/20/02 1200 to 2400**

**Data Validation Date: 01/24/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/20/02 | 7093-18-0115 | Park Row | 1352 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0046 |
| 01/20/02 | 7093-19-0115 | Chambers Street | 1266 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/20/02 | 7093-15- | Manhattan PS #143 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/20/02 | 7094-09-0103 | Bronx PS #154 | 1342 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/20/02 | 7096-12-0109 | Queens PS #199 | 1192*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/20/02 | 7095-98-0109 | Brooklyn PS #274 | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 01/20/02 | 7097-18-0106 | Staten Island PS #44 | 1098*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted due to no access to station location
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

ext-01-20-02pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/25/2002**
**Sampling Date and Time: 01/22/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/22/02 | RST-03570 | L | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/22/02 | RST-03571 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03572 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03573 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03574 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03575 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03576 | A | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/22/02 | RST-03577 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03578 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03579 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03580 | I | 698 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 01/22/02 | RST-03581 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03582 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03583 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03584 | S-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03585 | P | 683 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/22/02 | RST-03586 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03587 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03588 | T-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03589 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03590 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/22/02 | RST-03591 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | FB012302 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/23/02 | TB012302 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/25/2002**
**Sampling Date and Time: 01/23/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/23/02 | RST-03592 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03593 | M-1 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/23/02 | RST-03594 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03595 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03596 | Q | 646 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0048 |
| 01/23/02 | RST-03597 | F | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03598 | A | 454 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 01/23/02 | RST-03599 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03600 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03601 | H | 392 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0079 |
| 01/23/02 | RST-03602 | I | 666 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/23/02 | RST-03603 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03604 | K | 299 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0103 |
| 01/23/02 | RST-03605 | S | 675 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/23/02 | RST-03606 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03607 | E | 720 | Air | <7.0 | <0.004 | 2*** | 1*** | 26.67 | 0.0143 |
| 01/23/02 | RST-03608 | T | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 16.00 | 0.0086 |
| 01/23/02 | RST-03609 | U | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03610 | U-Duplicate | 662 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/23/02 | RST-03611 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03612 | V-Duplicate | 694 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 01/23/02 | RST-03613 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | FB012302 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/23/02 | TB012302 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-23-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/23/02 0740 to 2200**

**Data Validation Date: 01/25/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/23/02 | LF02360 | P-1 | 720 | Air | <7.0 | <0.004 | 3*** | 1*** | 35.00 | 0.0187 |
| 01/23/02 | LF02361 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02362 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02363 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02364 | P-5 | 573 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0059 |
| 01/23/02 | LF02365 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02366 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02367 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02368 | W-11 | 720 | Air | 38.22 | 0.020 | 2*** | 1**** | 26.25 | 0.0140 |
| 01/23/02 | LF02369 | W-12A | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02370 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02371 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02372 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02373 | T-15 | 720 | Air | 68.79 | 0.037 | 1*** | 0 | 8.75 | 0.0047 |
| 01/23/02 | LF02374 | T-16 | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02375 | O-17 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/23/02 | LF02376 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02377 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02378 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/23/02 | LF02379 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/23/02 | LF02380 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/21/02 1200 to 2400 and 01/20/02 1200 to 2130 [a]**

**Data Validation Date: 01/25/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/21/02 | 7093-18-0116 | Park Row | 1296 | Air | 8.92 | 0.003 | 0 | 0 | <16.00 | <0.0048 |
| 01/21/02 | 7093-19-0116 | Chambers Street | 1270 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 01/20/02 | 7093-15-0113 | [a] Manhattan IS #143 | 1140*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 01/21/02 | 7094-09-0104 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/21/02 | 7096-12-0110 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/21/02 | 7095-98-0110 | Brooklyn PS #274 | 1090*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 01/21/02 | 7097-18-0107 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
[a] The sampling date is 1/20/02 for sample 7093-15-0113 due to previous lack of access
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

Table 1.1 Results of the Analysis for PAH in Air
WA # 0-0236: NYC ER Site

| Date Sampled 12/27/01 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 05866 | | 11471 | | 11472 | | 11473 | | 11474 | |
| Sampling Location | Lot Blank | | TAGA | | TAGA | | A Barclay & West Broadway | | Loc 3B Church & Vesey | |
| Volume (L) | 0 | | 480 | | 131 | | 480 | | 480 | |
| Compound Name | Conc. µg | MDL µg | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv | Conc. ppbv | MDL ppbv |
| Naphthalene | U | 11 | U | 4.3 | U | 16 | U | 4.3 | U | 4.3 |
| 2-Methylnaphthalene | U | 11 | U | 4.1 | U | 15 | U | 4.1 | U | 4.1 |
| 1-Methylnaphthalene | U | 11 | U | 4.0 | U | 14 | U | 4.0 | U | 4.0 |
| Biphenyl | U | 11 | U | 3.8 | U | 14 | U | 3.8 | U | 3.8 |
| 2,6-Dimethylnaphthalene | U | 12 | U | 3.8 | U | 14 | U | 3.8 | U | 3.8 |
| Acenaphthylene | U | 12 | U | 3.9 | U | 14 | U | 3.9 | U | 3.9 |
| Acenaphthene | U | 11 | U | 3.6 | U | 13 | U | 3.6 | U | 3.6 |
| Dibenzofuran | U | 11 | U | 3.4 | U | 13 | U | 3.4 | U | 3.4 |
| Fluorene | U | 11 | U | 3.5 | U | 13 | U | 3.5 | U | 3.5 |
| Phenanthrene | U | 11 | U | 3.1 | U | 12 | U | 3.1 | U | 3.1 |
| Anthracene | U | 11 | U | 3.2 | U | 12 | U | 3.2 | U | 3.2 |
| Carbazole | U | 12 | U | 3.7 | U | 13 | U | 3.7 | U | 3.7 |
| Fluoranthene | U | 12 | U | 2.9 | U | 11 | U | 2.9 | U | 2.9 |
| Pyrene | U | 11 | U | 2.8 | U | 10 | U | 2.8 | U | 2.8 |
| Benzo(a)anthracene | U | 11 | U | 2.5 | U | 9.2 | U | 2.5 | U | 2.5 |
| Chrysene | U | 10 | U | 2.2 | U | 8.2 | U | 2.2 | U | 2.2 |
| Benzo(b)fluoranthene | U | 11 | U | 2.3 | U | 8.5 | U | 2.3 | U | 2.3 |
| Benzo(k)fluoranthene | U | 12 | U | 2.5 | U | 9.2 | U | 2.5 | U | 2.5 |
| Benzo(e)pyrene | U | 11 | U | 2.3 | U | 8.4 | U | 2.3 | U | 2.3 |
| Benzo(a)pyrene | U | 13 | U | 2.5 | U | 9.3 | U | 2.5 | U | 2.5 |
| Indeno(1,2,3-cd)pyrene | U | 14 | U | 2.6 | U | 9.7 | U | 2.6 | U | 2.6 |
| Dibenzo(a,h)anthracene | U | 14 | U | 2.6 | U | 9.6 | U | 2.6 | U | 2.6 |
| Benzo(g,h,i)perylene | U | 13 | U | 2.4 | U | 8.8 | U | 2.4 | U | 2.4 |

COC 04891
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

ERTC 1/23/02

12-27-01&1-3-02PAH.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 1/10/02 0800 to 1536**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 1/10/02 | 06138 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06139 | 3B | 980 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06140 | B | 1020 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06141 | B | 980 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06142 | C | 920 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06143 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06144 | P | 980 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06145 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06146 | E | 990 | Air | <0.01 | <0.02 | <0.02 |
| 1/10/02 | 06137 | TAGA | 980 | Air | <0.01 | <0.02 | <0.02 |

coc# 04392

**Sampling Locations:**

NS: Not sampled

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St

ERT 1/22/02

G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

**NIOSH 7500: Silica crystalline by XRD**

FL-1-10-02silica.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/08/02**

| Sample No. | WG-7039-1P | | 06041 | | 06042 | | 06043 | | 06044 | | 06045 | | 06046 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3B | | B | | C | |
| Sample Volume (L) | 0 | | 7035 | | 6015 | | 5040 | | 6380 | | 7200 | | 5925 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of MoCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of DiCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of TrCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of TeCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of PeCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of HxCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of HpCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of OcCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Sum of NoCBs | U | 10.0 | U | 1.42 | U | 1.66 | U | 1.98 | U | 1.57 | U | 1.39 | U | 1.69 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04383

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/22/02

1-08-02PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/08/02**

| Sample No. | 06047 | | 06048 | | 06049 | | 06050 | | 06081 | | 06082 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6465 | | 6660 | | 5010 | | 6540 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.55 | U | 1.50 | U | 2.00 | U | 1.53 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04383

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/08/02**

| Sample No. | WG7039-1 | | | 06041 | | | 06042 | | | 06043 | | | 06044 | | | 06045 | | | 06046 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R-TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7035 | | | 6015 | | | 5040 | | | 6380 | | | 7200 | | | 5925 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | EMPC $ng/m^3$ | MDL $ng/m^3$ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0033 | U | | 0.0040 | U | | 0.0031 | U | | 0.0028 | U | | 0.0034 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 1234678-HpCDD | U | 0.0074 | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| OCDD | 0.0146 J | | 0.20 | U | | 0.028 | U | | 0.017 | U | | 0.040 | U | 0.0031 | 0.031 | U | | 0.028 | U | 0.0030 | 0.034 |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0033 | U | | 0.0040 | U | | 0.0031 | U | | 0.0028 | U | | 0.0034 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | 0.0002 | 0.014 | 0.0002 J | | 0.017 |
| 234678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 123789-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | 0.0004 | 0.014 | U | | 0.017 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.017 | U | | 0.020 | U | | 0.016 | U | | 0.014 | U | | 0.017 |
| OCDF | U | | 0.20 | U | | 0.024 | U | | 0.033 | U | | 0.040 | U | | 0.031 | U | | 0.028 | U | | 0.034 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | 0.0020 | | | 0.0015 | | | 0.0012 | | | 0.0009 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0002 | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0004 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0401 | | | 0.0007 | | | 0.0010 | | | 0.0011 | | | 0.0011 | | | 0.0007 | | | 0.0009 | | |

COC# 04383
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/22/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-08-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/08/02**

| Sample No. | 06047 | | | 06048 | | | 06049 | | | 06050 | | | 06081 | | | 06082 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6465 | | | 6660 | | | 5010 | | | 6540 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0031 | U | | 0.0030 | U | | 0.0040 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.015 | U | 0.0009 | 0.015 | U | | 0.020 | U | 0.0008 | 0.015 | 0.0049 J | | 0.10 | U | 0.0044 | 0.10 |
| OCDD | U | | 0.031 | U | | 0.030 | U | 0.0028 | 0.040 | U | | 0.031 | U | | 0.20 | 0.0182 J | | 0.20 |
| 2378-TCDF | U | | 0.0031 | U | | 0.0030 | U | | 0.0040 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.015 | U | | 0.015 | 0.0003 J | | 0.020 | 0.0002 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | 0.0002 | 0.015 | U | 0.0014 | 0.10 | 0.001B J | | 0.10 |
| 1234789-HpCDF | U | | 0.015 | U | | 0.015 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.031 | U | | 0.030 | U | | 0.040 | U | | 0.031 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0011 | | | 0.0004 | | | 0.0011 | | | U | | | 0.0049 | | | 0.0019 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0003 | | | 0.0002 | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | 0.0018 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0009 | | | 0.0010 | | | 0.0015 | | | 0.0009 | | | 0.0399 | | | 0.0401 | | |

COC# 04383

1-08-02dioair.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 1/08/02 0820 to 1922**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 1/8/02 | 06073 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06074 | 3B | 960 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06075 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06076 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06077 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06070 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06078 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06079 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06071 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 1/8/02 | 06072 | TAGA | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04382

**Sampling Locations:**

NS: Not sampled

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St

ERT 1/17/02

G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
Location 3B Church & Vesey

**NIOSH 7500: Silica crystalline by XRD**

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/03/02**

| Sample No. | WG7028-1 | | | 05991 | | | 05993 | | | 05994 | | | 05995 | | | 05996 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 5280 | | | 5685 | | | 7200 | | | 5805 | | | 7200 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0038 | U | | 0.0035 | U | | 0.0028 | U | | 0.0034 | U | 0.0001 | 0.0028 |
| 12378-PeCDD | U | 0.0015 | 0.10 | U | | 0.019 | U | | 0.018 | 0.0001 J | | 0.014 | U | | 0.017 | U | 0.0004 | 0.014 |
| 123478-HxCDD | U | 0.0019 | 0.10 | 0.0002 J | | 0.019 | U | 0.0001 | 0.018 | U | 0.0002 | 0.014 | U | | 0.017 | U | 0.0004 | 0.014 |
| 123678-HxCDD | U | 0.0026 | 0.10 | U | 0.0002 | 0.019 | U | 0.0003 | 0.018 | U | 0.0002 | 0.014 | U | 0.0003 | 0.017 | U | 0.0004 | 0.014 |
| 123789-HxCDD | U | 0.0022 | 0.10 | U | 0.0002 | 0.019 | U | | 0.018 | U | 0.0001 | 0.014 | U | | 0.017 | 0.0005 J | | 0.014 |
| 1234678-HpCDD | 0.007J | | 0.10 | U | | 0.019 | U | | 0.018 | U | | 0.014 | U | | 0.017 | U | | 0.014 |
| OCDD | 0.0362 J | | 0.20 | U | | 0.038 | U | | 0.035 | U | | 0.028 | U | | 0.034 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | 0.0001 | 0.0038 | 0.0001 J | | 0.0035 | 0.0004 J | | 0.0028 | 0.0001 J | | 0.0034 | U | 0.0001 | 0.0028 |
| 12378-PeCDF | U | | 0.10 | U | | 0.019 | U | | 0.018 | U | | 0.014 | U | 0.0001 | 0.017 | 0.0004 J | | 0.014 |
| 23478-PeCDF | U | | 0.10 | U | | 0.019 | U | 0.0001 | 0.018 | U | 0.0002 | 0.014 | U | 0.0003 | 0.017 | 0.0004 J | | 0.014 |
| 123478-HxCDF | U | 0.0015 | 0.10 | U | 0.0001 | 0.019 | U | 0.0001 | 0.018 | U | 0.0001 | 0.014 | U | | 0.017 | U | | 0.014 |
| 123678-HxCDF | U | 0.0017 | 0.10 | U | 0.0001 | 0.019 | U | 0.0001 | 0.018 | U | 0.0002 | 0.014 | 0.0002 J | | 0.017 | 0.0004 J | | 0.014 |
| 234678-HxCDF | 0.0017 J | | 0.10 | U | 0.0001 | 0.019 | U | 0.0001 | 0.018 | U | 0.0001 | 0.014 | 0.0002 J | | 0.017 | 0.0004J | | 0.014 |
| 123789-HxCDF | U | 0.0012 | 0.10 | U | 0.0001 | 0.019 | U | 0.0001 | 0.018 | 0.0002 J | | 0.014 | U | 0.0001 | 0.017 | U | 0.0004 | 0.014 |
| 1234678-HpCDF | 0.0026 J | | 0.10 | U | 0.0002 | 0.019 | U | 0.0002 | 0.018 | U | 0.0003 | 0.014 | 0.0005 J | | 0.017 | 0.0008 J | | 0.014 |
| 1234789-HpCDF | U | 0.0018 | 0.10 | U | | 0.019 | U | 0.0001 | 0.018 | U | | 0.014 | U | | 0.017 | 0.0004 J | | 0.014 |
| OCDF | U | 0.0054 | 0.20 | U | | 0.038 | U | | 0.035 | 0.0004 J | | 0.028 | 0.0002 J | | 0.034 | 0.0014 J | | 0.028 |
| | | | | | | | | | | | | | | | | | | |
| Total TCDDs | 0.0004 | | | U | | | 0.0002 | | | 0.0007 | | | 0.0010 | | | 0.0009 | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0001 | | | U | | | U | | |
| Total HxCDDs | 0.0014 | | | 0.0003 | | | 0.0003 | | | 0.0004 | | | 0.0005 | | | 0.0005 | | |
| Total HpCDDs | 0.0070 | | | 0.0015 | | | U | | | U | | | 0.0011 | | | 0.0023 | | |
| | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | 0.0001 | | | 0.0014 | | | 0.0002 | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | 0.0001 | | | 0.0008 | | |
| Total HxCDFs | 0.0022 | | | 0.0001 | | | 0.0001 | | | 0.0003 | | | U | | | 0.0008 | | |
| Total HpCDFs | 0.0026 | | | U | | | U | | | 0.0002 | | | 0.0007 | | | 0.0012 | | |
| | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0003 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0004 | | |
| TEQ (ND=1/2) | 0.0379 | | | 0.0001 | | | 0.0002 | | | 0.0001 | | | 0.0002 | | | 0.0005 | | |

COC# 04898
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/17/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/03/02**

| Sample No. | 05997 | | | 05998 | | | 05999 | | | 06000 | | | 06031 | | | 06032 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 5565 | | | 6405 | | | 6630 | | | 7230 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | 0.0001 | 0.0036 | U | | 0.0031 | U | | 0.0030 | U | | 0.0028 | U | 0.0005 | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | U | 0.0006 | 0.10 | U | 0.0004 | 0.10 |
| 123478-HxCDD | U | 0.0002 | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | 0.0003 J | | 0.018 | U | | 0.016 | 0.0002 J | | 0.015 | U | 0.0002 | 0.014 | U | 0.0021 | 0.10 | U | 0.0013 | 0.10 |
| 123789-HxCDD | U | | 0.018 | U | | 0.016 | U | 0.0001 | 0.015 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | 0.0095 J | | 0.10 | U | 0.0076 | 0.10 |
| OCDD | U | | 0.036 | U | | 0.031 | U | | 0.030 | U | | 0.028 | U | | 0.20 | 0.0297 J | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | 0.0002 | 0.0036 | U | | 0.0031 | 0.0001 J | | 0.0030 | U | | 0.0028 | U | 0.0004 | 0.020 | U | 0.0005 | 0.020 |
| 12378-PeCDF | U | | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | U | 0.0004 | 0.10 | U | 0.0004 | 0.10 |
| 23478-PeCDF | U | | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | 0.0003 J | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | 0.0002 | 0.018 | U | 0.0001 | 0.016 | U | | 0.015 | U | | 0.014 | 0.0007 J | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | 0.0002 | 0.018 | 0.0001 J | | 0.016 | U | | 0.015 | U | 0.0001 | 0.014 | U | 0.0007 | 0.10 | U | 0.0006 | 0.10 |
| 234678-HxCDF | U | 0.0002 | 0.018 | U | | 0.016 | 0.0001 J | | 0.015 | 0.0001 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | 0.0001 | 0.018 | U | 0.0001 | 0.016 | U | | 0.015 | 0.0001 J | | 0.014 | | 0.0004 | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | 0.0007 | 0.018 | 0.0004 J | | 0.016 | U | 0.0002 | 0.015 | 0.0002 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.018 | U | | 0.016 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | 0.0007 | 0.036 | 0.0002 J | | 0.031 | U | 0.0002 | 0.030 | U | 0.0008 | 0.028 | U | 0.0025 | 0.20 | U | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| Total TCDDs | 0.0006 | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | 0.0004 | | | U | | |
| Total HxCDDs | 0.0005 | | | U | | | 0.0002 | | | U | | | 0.0023 | | | U | | |
| Total HpCDDs | U | | | 0.0010 | | | U | | | 0.0004 | | | 0.0180 | | | U | | |
| | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | 0.0001 | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | 0.0007 | | | U | | |
| Total HxCDFs | 0.0004 | | | 0.0002 | | | U | | | 0.0003 | | | U | | | U | | |
| Total HpCDFs | U | | | 0.0004 | | | U | | | 0.0002 | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0003 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0002 | | | 0.0002 | | | 0.0002 | | | 0.0002 | | | 0.0400 | | | 0.0401 | | |

COC# 04898

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/24/02**

| File Name | NYC847 | NYC848 | NYC849 | NYC850 | NYC852 | NYC851 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07385 | A07386 | A07388 | A07387 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **80** | RL |
| Acetone | RL | RL | RL | RL | **530** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **26** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, January 26-28, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on 1/28**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 42 samples taken in and around ground zero on January 23 and January 24. EPA also sampled for asbestos at two additional lower Manhattan locations on January 22 and January 23. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,296, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 22 and January 23. None showed exceedances of the AHERA re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples from January 25 through January 27 at Location N (south side of Pier 25), Location R (northwest side of Stuyvesant High School) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Isocyanates** - A total of 24 samples were collected on December 11 and December 19 at numerous locations in Lower Manhattan. Isocyanates were either not detected or were below the OSHA PEL and NIOSH REL.

**PCB's** - A total of 10 samples were collected on January 10 at several locations in Lower

Manhattan. PCB's were not detected.

**Metals** - A total of 10 samples were collected on January 8 at several locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from January 25 through January 27 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from January 25 through January 27 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, January 28, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 23, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location E) was not collected due to an equipment malfunction.

NYC / ER (Jan 24, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
2 samples (Location I) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 24 - 27) - Particulate Monitoring (Dataram)

No particulate measurements were conducted during this period due to inoperative equipment.

Ambient Air Sampling Locations

NYC / ER (Dec 11) - Isocyanates

12 samples collected for confirmatory laboratory analysis of previously conducted field screening measurements.
Locations monitored: North Tower (northwest corner), West/Liberty Sts., and Locations A, B, C, D, E, P, R, S, 3B from the fixed ambient air sampling stations.
Sampling period consisted of a 15-minute grab at each location.
All 12 samples did not detect any isocyanates.
Field screening conducted previously at the two work-zone locations referenced above detected low levels of HDI and TDI (at or just above the instrument detection limits).

NYC / ER (Dec 19) - Isocyanates

12 samples collected for confirmatory laboratory analysis of previously conducted field screening measurements.
Locations monitored: North Tower, Vista Hotel, and Locations A, B, C, D, E, P, R, S, 3B from the fixed ambient air sampling stations.
Sampling period consisted of a 15-minute grab at each location.
Low levels of MDI monomer identified at Location R (0.0093 $mg/m^3$) and the Vista Hotel (0.014 $mg/m^3$) were below the OSHA PEL (0.2 $mg/m^3$) and NIOSH REL (0.05 $mg/m^3$) for these compounds.
Field screening conducted previously at the two work-zone locations referenced above detected low levels of MDI at the Vista Hotel location (at the instrument detection limit).

NYC / ER (Jan 8) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 10) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 22 - 23) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 25) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 to 6½ hours.
Station L values ranged from 1.6 to 110.7 ug/m$^3$ with an average of 14.6 ug/m$^3$.
Station N values ranged from 2.2 to 63.9 ug/m$^3$ with an average of 9.0 ug/m$^3$.
Station R values ranged from 3.1 to 153.3 ug/m$^3$ with an average of 11.5 ug/m$^3$.

NYC / ER (Jan 26) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 3.6 to 167.9 ug/m$^3$ with an average of 16.8 ug/m$^3$.
Station N values ranged from 4.2 to 124.2 ug/m$^3$ with an average of 11.6 ug/m$^3$.
Station R values ranged from 4.8 to 53.7 ug/m$^3$ with an average of 12.8 ug/m$^3$.

NYC / ER (Jan 27) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 12.9 to 448.0 ug/$m^3$ with an average of 28.6 ug/$m^3$.
Station N values ranged from 9.2 to 248.3 ug/$m^3$ with an average of 21.3 ug/$m^3$.
Station R values ranged from 4.2 to 50.9 ug/$m^3$ with an average of 22.1 ug/$m^3$.

NYC / ER (Jan 25) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 26) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 27) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/23/02 1200 to 2359**

**Data Validation Date: 01/25/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/23/02 | RST-03614 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03615 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03616 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03617 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03618 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03619 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03620 | A | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03621 | A-Duplicate | 419 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0074 |
| 01/23/02 | RST-03622 | C | 702 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/23/02 | RST-03623 | C-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03624 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03625 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03626 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03627 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03628 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03629 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03630 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | - | E | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/23/02 | RST-03631 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03632 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03633 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/23/02 | RST-03634 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | FB012402 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/24/02 | TB012402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-23-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/25/2002**
**Sampling Date and Time: 01/24/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/24/02 | RST-03635 | L | 675 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/24/02 | RST-03636 | M-1 | 689 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/24/02 | RST-03637 | N | 660 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/24/02 | RST-03638 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03639 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03640 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03641 | A | 656 | Air | 12.74 | 0.007 | 0 | 0 | <8.00 | <0.0047 |
| 01/24/02 | RST-03642 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03643 | B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03644 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/24/02 | RST-03645 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | - | I | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/24/02 | RST-03646 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03647 | D-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03648 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03649 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03650 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03651 | E | 690 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/24/02 | RST-03652 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03653 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03654 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03655 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | FB012402 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/24/02 | TB012402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-24-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/22/02 1200 to 2400**

**Data Validation Date: 01/27/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/22/02 | 7093-18-0117 | Park Row | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/22/02 | 7093-19-0117 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/22/02 | 7093-15-0114 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/22/02 | 7094-09-0105 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/22/02 | 7096-12-0111 | Queens PS #199 | 1040*** | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 01/22/02 | 7095-98-0111 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/22/02 | 7097-18-0108 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/23/02 1200 to 2400**

**Data Validation Date: 01/27/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc* |
| 01/23/02 | 7093-18-0118 | Park Row | 1180*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 01/23/02 | 7093-19-0118 | Chambers Street | 1210 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 01/23/02 | 7093-15-0116 | Manhattan IS #143 | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/23/02 | 7094-09-0106 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/23/02 | 7096-12-0112 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/23/02 | 7095-98-0112 | Brooklyn PS #274 | 1190*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 01/23/02 | 7097-18-0109 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 1**** | 0 | 16.00 | 0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 12/11/01**

| Sample No. | Method Blank | | 05721 | | | | 05722 | | | | 05723 | | | | 05724 | | | | 05725 | | | | 05726 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Lab | | R | | | | R | | | | A | | | | 3B | | | | B | | | | C | | | |
| Sample Volume (L) | 0 | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ |
| MDI Monomer | U | 0.040 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| HDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| HMDI Monomer | U | 0.040 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 |
| IPDI Monomer | U | 0.15 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 |

COC# 04374

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/24/02

**NYC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 12/11/01**

| Sample No. | 05727 | | | | 05728 | | | | 05729 | | | | 05730 | | | | 05910 | | | | 11370 | | | | 05909 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | | | P | | | | S | | | | E | | | | North Tower NW Corner | | | | West Side & Liberty | | | | Field Blank | |
| Sample Volume (L) | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 0 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg |
| MDI Monomer | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 |
| HDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 |
| HMDI Monomer | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 |
| IPDI Monomer | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 |

COC# 04374

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**NYC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 12/19/01**

| Sample No. | Method Blank | | 05971 | | | | 05972 | | | | 05973 | | | | 05974 | | | | 05975 | | | | 05976 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Lab | | R | | | | R | | | | A | | | | 3B | | | | B | | | | C | | | |
| Sample Volume (L) | 0 | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 15 | | | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | µg | µg | mg/m$^3$ | mg/m$^3$ | µg | µg | mg/m$^3$ | mg/m$^3$ | µg | µg | mg/m$^3$ | mg/m$^3$ | µg | µg | mg/m$^3$ | mg/m$^3$ | µg | µg | mg/m$^3$ | mg/m$^3$ | µg | µg | mg/m$^3$ | mg/m$^3$ |
| MDI Monomer | U | 0.040 | 0.10 | 0.040 | 0.0067 | 0.0027 | 0.14 | 0.040 | 0.0093 | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| HDI Monomer | U | 0.030 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 |
| HMDI Monomer | U | 0.040 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 |
| IPDI Monomer | U | 0.15 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 |

COC# 04375

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/24/02

**NYC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 12/19/01**

| Sample No. | 05977 | | | | 05978 | | | | 05979 | | | | 05980 | | | | 05970 | | | | 11501 | | | | 05969 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | | | P | | | | S | | | | E | | | | North Tower 1 | | | | Vista Hotel | | | | Field Blank |
| Sample Volume (L) | 15 | | | | 15 | | | | 15 | | | | 15 | | | | 30 | | | | 15 | | | | 0 |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg |
| MDI Monomer | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0013 | 0.21 | 0.040 | 0.014 | 0.0027 | U | 0.040 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0010 | U | 0.030 | U | 0.0020 | U | 0.030 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0010 | U | 0.030 | U | 0.0020 | U | 0.030 |
| HDI Monomer | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0020 | U | 0.030 | U | 0.0010 | U | 0.030 | U | 0.0020 | U | 0.030 |
| HMDI Monomer | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0027 | U | 0.040 | U | 0.0013 | U | 0.040 | U | 0.0027 | U | 0.040 |
| IPDI Monomer | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.010 | U | 0.15 | U | 0.0050 | U | 0.15 | U | 0.010 | U | 0.15 |

COC# 04375
Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 06083 | | 06084 | | 06051 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | TAGA | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4819.5 | |
| Date Collected | | - | | - | | - | | 01/08/02 | | 01/08/02 | | 01/08/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 3.4 | 2.5 | 3.3 | 2.5 | 3.8 | 2.5 | U | 2.5 | U | 2.5 | 0.79 | 0.52 |
| Chromium | ICAP | 0.45 | 0.13 | 0.71 | 0.13 | 0.75 | 0.13 | 0.36 | 0.13 | 0.24 | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Iron | ICAP | 2.8 | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.13 |
| Lead | AA-Fur | 0.073 | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.015 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | 6.8 | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

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Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06052 | | 06053 | | 06054 | | 06055 | | 06056 | | 06057 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TAGA | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4462.5 | | 4800 | | 4250 | | 3640 | | 4950 | | 3400 | |
| Date Collected | | 01/08/02 | | 01/08/02 | | 01/08/02 | | 01/08/02 | | 01/08/02 | | 01/08/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.28 | 3.6 | 0.26 | 0.37 | 0.29 | 0.80 | 0.34 | 0.48 | 0.25 | 0.42 | 0.37 |
| Antimony | AA-Fur | U | 0.011 | 0.011 | 0.01 | U | 0.012 | U | 0.014 | U | 0.01 | U | 0.015 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.01 | 0.023 | 0.012 | U | 0.014 | U | 0.01 | U | 0.015 |
| Barium | ICAP | U | 0.028 | 0.048 | 0.026 | U | 0.029 | U | 0.034 | U | 0.025 | U | 0.037 |
| Beryllium | ICAP | U | 0.011 | U | 0.01 | U | 0.012 | U | 0.014 | U | 0.01 | U | 0.015 |
| Cadmium | ICAP | U | 0.028 | U | 0.026 | U | 0.029 | U | 0.034 | U | 0.025 | U | 0.037 |
| Calcium | ICAP | 0.87 | 0.56 | 26.0 | 0.52 | 3.4 | 0.59 | 7.8 | 0.69 | 3.6 | 0.51 | 3.7 | 0.74 |
| Chromium | ICAP | U | 0.028 | 0.062 | 0.026 | U | 0.029 | U | 0.034 | 0.085 | 0.025 | 0.062 | 0.037 |
| Cobalt | ICAP | U | 0.056 | U | 0.052 | U | 0.059 | U | 0.069 | U | 0.051 | U | 0.074 |
| Copper | ICAP | U | 0.056 | 0.15 | 0.052 | 0.064 | 0.059 | U | 0.069 | U | 0.051 | U | 0.074 |
| Iron | ICAP | 0.15 | 0.14 | 11 | 0.13 | 3.1 | 0.15 | 3.2 | 0.17 | 2.1 | 0.13 | 1.0 | 0.18 |
| Lead | AA-Fur | 0.018 | 0.011 | 0.087 | 0.01 | 0.047 | 0.012 | 0.044 | 0.014 | 0.022 | 0.01 | 0.028 | 0.015 |
| Magnesium | ICAP | U | 2.8 | 3.6 | 2.6 | U | 2.9 | U | 3.4 | U | 2.5 | U | 3.7 |
| Manganese | ICAP | U | 0.028 | 0.16 | 0.026 | 0.051 | 0.029 | 0.058 | 0.034 | 0.03 | 0.025 | U | 0.037 |
| Nickel | ICAP | U | 0.056 | U | 0.052 | U | 0.059 | U | 0.069 | U | 0.051 | U | 0.074 |
| Potassium | ICAP | U | 11 | U | 10 | U | 12 | U | 14 | U | 10 | U | 15 |
| Selenium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.012 | U | 0.014 | U | 0.01 | U | 0.015 |
| Silver | ICAP | U | 0.028 | U | 0.026 | U | 0.029 | U | 0.034 | U | 0.025 | U | 0.037 |
| Sodium | ICAP | 7.2 | 2.8 | 5.5 | 2.6 | 4.7 | 2.9 | 16 | 3.4 | 6.6 | 2.5 | 6.8 | 3.7 |
| Thallium | AA-Fur | U | 0.011 | U | 0.01 | U | 0.012 | U | 0.014 | U | 0.01 | U | 0.015 |
| Vanadium | ICAP | U | 0.056 | U | 0.052 | U | 0.059 | U | 0.069 | U | 0.051 | U | 0.074 |
| Zinc | ICAP | 0.07 | 0.056 | 0.60 | 0.052 | 0.20 | 0.059 | 0.18 | 0.069 | 0.11 | 0.051 | 0.13 | 0.074 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

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Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06058 | | 06059 | | 06060 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTHEND AVE | | S-RECTOR PLACE & SOUTHEND AVE | | E-LIBERTY ST. & SOUTHEND AVE | |
| Air Volume (L) | | 4090 | | 4210 | | 3410 | |
| Date Collected | | 01/08/02 | | 01/08/02 | | 01/08/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.31 | U | 0.30 | U | 0.37 |
| Antimony | AA-Fur | U | 0.012 | U | 0.012 | U | 0.015 |
| Arsenic | AA-Fur | U | 0.012 | U | 0.012 | U | 0.015 |
| Barium | ICAP | U | 0.031 | U | 0.03 | U | 0.037 |
| Beryllium | ICAP | U | 0.012 | U | 0.012 | U | 0.015 |
| Cadmium | ICAP | U | 0.031 | U | 0.03 | U | 0.037 |
| Calcium | ICAP | 2.5 | 0.61 | 1.3 | 0.59 | U | 0.73 |
| Chromium | ICAP | 0.061 | 0.031 | U | 0.03 | 0.08 | 0.037 |
| Cobalt | ICAP | U | 0.061 | U | 0.059 | U | 0.073 |
| Copper | ICAP | U | 0.061 | U | 0.059 | U | 0.073 |
| Iron | ICAP | 0.80 | 0.15 | 0.62 | 0.15 | U | 0.18 |
| Lead | AA-Fur | 0.02 | 0.012 | 0.018 | 0.012 | U | 0.015 |
| Magnesium | ICAP | U | 3.1 | U | 3.0 | U | 3.7 |
| Manganese | ICAP | U | 0.031 | U | 0.03 | U | 0.037 |
| Nickel | ICAP | U | 0.061 | U | 0.059 | U | 0.073 |
| Potassium | ICAP | U | 12 | U | 12 | U | 15 |
| Selenium | AA-Fur | U | 0.012 | U | 0.012 | U | 0.015 |
| Silver | ICAP | U | 0.031 | U | 0.03 | U | 0.037 |
| Sodium | ICAP | 17 | 3.1 | 13 | 3.0 | 7.0 | 3.7 |
| Thallium | AA-Fur | U | 0.012 | U | 0.012 | U | 0.015 |
| Vanadium | ICAP | U | 0.061 | U | 0.059 | U | 0.073 |
| Zinc | ICAP | U | 0.061 | 0.075 | 0.059 | U | 0.073 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/10/02**

| Sample No. | WG-7044-1P | | 06101 | | 06102 | | 06103 | | 06104 | | 06105 | | 06106 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3B | | B | | B | | C | |
| Sample Volume (L) | 0 | | 7455 | | 8040 | | 5250 | | 6438 | | 6615 | | 6566 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of MoCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of DiCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of TrCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of TeCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of PeCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of HxCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of HpCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of OcCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Sum of NoCBs | U | 10.0 | U | 1.34 | U | 1.24 | U | 1.90 | U | 1.55 | U | 1.51 | U | 1.52 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04389

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/23/02

1-10-02PCBairrev.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/10/02**

| Sample No. | 06107 | | 06108 | | 06109 | | 06110 | | 06111 | | 06112 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7005 | | 6165 | | 6002.25 | | 6726 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.43 | U | 1.62 | U | 1.67 | U | 1.49 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 04389

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 25, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2607 | 2646 | 2647 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0806 | 0823 | 0806 |
| **Stop Time** | 1432 | 1436 | 1433 |
| **Run Time (minutes)** | 385.5 | 372.5 | 386.5 |
| **Minimum Concentration ($ug/m^3$)** | 1.6 | 2.2 | 3.1 |
| **Maximum Concentration ($ug/m^3$)** | 110.7 | 63.9 | 153.3 |
| **Average Concentration ($ug/m^3$)** | 14.6 | 9.0 | 11.5 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 27, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2646 | 2647 | 2607 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0820 | 0833 | 0816 |
| **Stop Time** | 1437 | 1440 | 1433 |
| **Run Time (minutes)** | 376.5 | 366.5 | 376.5 |
| **Minimum Concentration ($ug/m^3$)** | 12.9 | 9.2 | 4.2 |
| **Maximum Concentration ($ug/m^3$)** | 448.0 | 248.3 | 50.9 |
| **Average Concentration ($ug/m^3$)** | 28.6 | 21.3 | 22.1 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 26, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2607 | 2647 | 2646 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0817 | 0831 | 0817 |
| **Stop Time** | 1437 | 1441 | 1437 |
| **Run Time (minutes)** | 380 | 370 | 380.5 |
| **Minimum Concentration ($ug/m^3$)** | 3.6 | 4.2 | 4.8 |
| **Maximum Concentration ($ug/m^3$)** | 167.9 | 124.2 | 53.7 |
| **Average Concentration ($ug/m^3$)** | 16.8 | 11.6 | 12.8 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/25/02**

| File Name | NYC857 | NYC858 | NYC859 | NYC860 | NYC862 | NYC861 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent: Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07389 | A07390 | A07391 | A07392 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/27/02**

| File Name | NYC874 | NYC875 | NYC876 | NYC877 | NYC879 | NYC878 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07397 | A07398 | A07400 | A07399 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Tuesday, January 29, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on 1/29**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 84 samples taken in and around ground zero from January 24 through January 26. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,380, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Staten Island Landfill:**

**Air (Asbestos)** - Thirty-seven air samples collected on January 24 and January 25 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from January 21 through January 26 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 $ug/m^3$ for all stations. These results were also less than 40 $ug/m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**PM10** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from January 21 through January 26 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 28 at Location N (south side of Pier 25), Location R (northwest side of Stuyvesant High School) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA

time-weighted permissible exposure limit for particulates.

**Isocyanates** - A total of 24 samples were collected on December 11 and December 19 at numerous locations in Lower Manhattan. The level of MDI (4,4'-Methylenediphenyl Isocyanate) identified at Location R (northwest side of Stuyvesant High School) on December 19 was above the EPA action guidance level. (Note that winds, at the time of this sampling event, were off the Hudson River.) Isocyanates in all other samples were either not detected or were below the OSHA PEL and NIOSH REL.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 28 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 28 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, January 29, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 24, 0001 - 1200 hrs)

Errata: Previously reported in the January 28 Sampling Situation Report that 2 samples were not collected due to equipment malfunctions. There was actually only one malfunction.

NYC / ER (Jan 24, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 25, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location N) was not collected due to an equipment malfunction.

NYC / ER (Jan 25, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Jan 26, 0001 - 1200 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 sample (Location D) was not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 24, 0745 - 2220)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 25, 0740 - 2230)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location O-17) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

Fresh Kills (Jan 28) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to inoperative equipment.

Ambient Air Sampling Locations

NYC / ER (Dec 19) - Isocyanates

**Note**: The January 28 Sampling Situation Report reported confirmatory isocyanate results. Additional information provided below to supplement original report.
The levels of MDI (4,4'-Methylenediphenyl Isocyanate) identified at Location R **(0.0093 mg/m$^3$)** and its duplicate sample **(0.0067 mg/m$^3$)** were both above the EPA Removal Action guidance level **(0.0062 mg/m$^3$)** based on noncarcinogenic effects.
As reported previously, MDI (4,4'-Methylenediphenyl Isocyanate) was also identified at the Vista Hotel location **(0.014 mg/m$^3$)**, within the Ground Zero work zone, where the OSHA PEL and NIOSH REL are more applicable.
The OSHA PEL for MDI is **0.2 mg/m$^3$**. The NIOSH REL is **0.05 mg/m$^3$**.
Winds were generally steady out of the west during the limited 15-minute time period the samples were collected.

NYC / ER (Jan 21) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***20.60 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***20.29 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***19.61 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 21) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***26.28 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 22) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.82 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.11 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***13.34 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 22) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***22.29 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 23) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***12.82 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.27 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***12.47 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Jan 23) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***21.25 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 24) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.33 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***16.32 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***14.94 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 24) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.82 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 25) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.80 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.59 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.52 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 25) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***21.34 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 26) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.16 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.75 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.06 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 26) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.07 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 28) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 0.0 to 184.1 ug/m³ with an average of 49.8 ug/m³.
Station N values ranged from 0.0 to 131.6 ug/m³ with an average of 37.3 ug/m³.
Station R values ranged from 0.0 to 140.3 ug/m³ with an average of 36.9 ug/m³.

NYC / ER (Jan 28) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/27/2002**
**Sampling Date and Time: 01/24/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/24/02 | RST-03656 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03657 | M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03658 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03659 | N-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03660 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03661 | J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03662 | Q | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03663 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03664 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03665 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03666 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03667 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03668 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03669 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03670 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03671 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03672 | U | 487 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 01/24/02 | RST-03673 | V | 405 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0076 |
| 01/24/02 | RST-03674 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03675 | P | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/24/02 | RST-03676 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/24/02 | RST-03677 | W | 720 | Air | 11.46 | 0.006 | 4*** | 0 | 35.56 | 0.0190 |
| 01/25/02 | FB012502 | Field Blank | 0 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 01/25/02 | TB012502 | Trip Blank | 0 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA$^{(1)}$ - Not analyzed due to overloading of particulates
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NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-24-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/25/02 0001 to 1200**

**Data Validation Date: 01/27/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/25/02 | RST-03678 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03679 | L-Duplicate | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03680 | M1 | 667 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/25/02 | RST-03681 | M1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | - | N | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/25/02 | RST-03682 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03683 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03684 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03685 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03686 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03687 | C | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03688 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03689 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03690 | D | 705 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/25/02 | RST-03691 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03692 | T | 705 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/25/02 | RST-03693 | U | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/25/02 | RST-03694 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03695 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03696 | P | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/25/02 | RST-03697 | E | 713 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03698 | W | 720 | Air | 14.01 | 0.007 | 2*** | 0 | 17.78 | 0.0095 |
| 01/25/02 | FB012502 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/25/02 | TB012502 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
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U: Pier 6 Exit 2
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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-25-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/28/02**
**Sampling Date and Time: 01/25/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/25/02 | RST-03699 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03700 | M1 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03701 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03702 | J | 720 | Air | 10.19 | 0.005 | 1*** | 0 | 8.89 | 0.0048 |
| 01/25/02 | RST-03703 | Q | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03704 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03705 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03706 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03707 | C | 695 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/25/02 | RST-03708 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03709 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03710 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03711 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03712 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03713 | K | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03714 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03715 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03716 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03717 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03718 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/25/02 | RST-03719 | W | 720 | Air | 16.56 | 0.009 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | FB012602 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/26/02 | TB012602 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-25-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/28/02**
**Sampling Date and Time: 01/26/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/26/02 | RST-03720 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03721 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03722 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03723 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03724 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03725 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03726 | A | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03727 | B | 627 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 01/26/02 | RST-03728 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03729 | H | 653 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/26/02 | RST-03730 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | - | D | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/26/02 | RST-03731 | K | 720 | Air | 7.01 | 0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/26/02 | RST-03732 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03733 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03734 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03735 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03736 | P-Duplicate | 569 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/26/02 | RST-03737 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03738 | E-Duplicate | 546 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0056 |
| 01/26/02 | RST-03739 | W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | FB012602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/26/02 | TB012602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-26-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/24/02 0745 to 2220**

**Data Validation Date: 01/27/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/24/02 | LF02381 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02382 | P-2 | 592 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0051 |
| 01/24/02 | LF02383 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02384 | P-4 | 298 | Air | <7.0 | <0.009 | 0 | 0 | <7.87 | <0.0102 |
| 01/24/02 | LF02385 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02386 | P-6 | 653 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/24/02 | LF02387 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02388 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02389 | W-11 | 720 | Air | 42.04 | 0.022 | 2*** | 0 | 17.50 | 0.0094 |
| 01/24/02 | LF02390 | W-12A | 720 | Air | 22.93 | 0.012 | 2*** | 0 | 17.50 | 0.0094 |
| 01/24/02 | LF02391 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02392 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02393 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02394 | T-15 | 720 | Air | 30.57 | 0.016 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02395 | T-16 | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02396 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02397 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02398 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02399 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/24/02 | LF02400 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/24/02 | LF02401 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-24-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/25/02 0740 to 2230**

**Data Validation Date: 01/28/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/25/02 | LF02402 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.75 | 0.0047 |
| 01/25/02 | LF02403 | P-2 | 331 | Air | <7.0 | <0.008 | 0 | 0 | <7.87 | <0.0092 |
| 01/25/02 | LF02404 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02405 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02406 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02407 | P-6 | 96**** | Air | <7.0 | <0.028 | 0 | 0 | <7.87 | <0.0316 |
| 01/25/02 | LF02408 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02409 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02410 | W-11 | 720 | Air | 31.85 | 0.017 | 4*** | 2*** | 52.49 | 0.0281 |
| 01/25/02 | LF02411 | W-12A | 720 | Air | 14.01 | 0.0075 | 2*** | 1*** | 26.25 | 0.0140 |
| 01/25/02 | LF02412 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02413 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02414 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02415 | T-15 | 720 | Air | 43.31 | 0.023 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02416 | T-16 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02417 | O-17 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/25/02 | LF02418 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02419 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02420 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/25/02 | LF02421 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/25/02 | LF02422 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-25-02-am.xls

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 28, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2646 | 2647 | 2607 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0821 | 0831 | 0817 |
| **Stop Time** | 1427 | 1429 | 1423 |
| **Run Time (minutes)** | 366 | 358 | 366 |
| **Minimum Concentration ($ug/m^3$)** | 0.0 | 0.0 | 0.0 |
| **Maximum Concentration ($ug/m^3$)** | 184.1 | 131.6 | 140.3 |
| **Average Concentration ($ug/m^3$)** | 49.8 | 37.3 | 36.9 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/28/02**

| File Name | NYC884 | NYC885 | NYC886 | NYC887 | NYC889 | NYC888 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07401 | A07402 | A07404 | A07403 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Wednesday, January 30, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 11:00 a.m. on 1/30**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 42 samples taken in and around ground zero on January 26 and January 27. EPA also sampled for asbestos at two additional lower Manhattan locations on January 24. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,424, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 24. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Thirty-one air samples collected on January 26 and January 27 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on January 29 at Location N (south side of Pier 25), Location R (northwest side of Stuyvesant High School) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 29 in the

direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 29 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, January 30, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 26, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Jan 27, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location T) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 26, 0740 - 2220)

All 13 samples analyzed were below the TEM AHERA standard.
5 samples (Locations W-11, W-12A, B-14, T-15, and T-16) were not analyzed due to overloading of particulates.
1 sample (Location P-5) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

Fresh Kills (Jan 27, 0735 - 2225)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location O-17) was not collected due to an equipment malfunction.

Fresh Kills (Jan 29) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to inoperative equipment.

Ambient Air Sampling Locations

NYC / ER (Jan 24) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
Note: Low sample volumes recorded.

NYC / ER (Jan 29) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 6 hours.
Station L values ranged from 4.3 to 148.5 ug/$m^3$ with an average of 45.5 ug/$m^3$.
Station N values ranged from 13.7 to 79.0 ug/$m^3$ with an average of 35.7 ug/$m^3$.
Station R values ranged from 21.7 to 99.8 ug/$m^3$ with an average of 41.4 ug/$m^3$.

NYC / ER (Jan 29) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.
Note: No plume was noted during the period these samples were collected.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/29/2002**
**Sampling Date and Time: 01/26/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/26/02 | RST-03740 | L | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/26/02 | RST-03741 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03742 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03743 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03744 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03745 | F | 720 | Air | 7.64 | 0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/26/02 | RST-03746 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03747 | A-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03748 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03749 | B-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03750 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03751 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03752 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03753 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03754 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03755 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03756 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03757 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03758 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03759 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/26/02 | RST-03760 | W | 720 | Air | 12.74 | 0.007 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | FB012702 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/27/02 | TB012702 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-26-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/27/02 0001 to 1200**

**Data Validation Date: 01/29/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/27/02 | RST-03761 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03762 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03763 | N | 319 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0097 |
| 01/27/02 | RST-03764 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03765 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03766 | F | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03767 | A | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03768 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03769 | C | 637 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 01/27/02 | RST-03770 | C-Duplicate | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03771 | H | 345 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0089 |
| 01/27/02 | RST-03772 | I | 257 | Air | <7.0 | <0.010 | 0 | 0 | <8.00 | <0.0120 |
| 01/27/02 | RST-03773 | D | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03774 | D-Duplicate | 356 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0087 |
| 01/27/02 | RST-03775 | K | 693 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/27/02 | RST-03776 | U | 670 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/27/02 | RST-03777 | V | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 01/27/02 | RST-03778 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03779 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03780 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 01/27/02 | RST-03781 | W | 703 | Air | 15.29 | 0.008 | 0 | 0 | <8.89 | <0.0049 |
| 01/27/02 | FB012702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/27/02 | TB012702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-27-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/26/02 0740 to 2220**

**Data Validation Date: 01/28/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/26/02 | LF02423 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02424 | P-2 | 82**** | Air | <7.0 | <0.033 | 0 | 0 | <7.87 | <0.0370 |
| 01/26/02 | LF02425 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02426 | P-4 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/26/02 | LF02427 | P-5 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/26/02 | LF02428 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02429 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02430 | P-8 | 698 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0048 |
| 01/26/02 | LF02431 | W-11 | 720 | Air | 26.75 | 0.014 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/26/02 | LF02432 | W-12A | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/26/02 | LF02433 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02434 | B-13 | 664 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/26/02 | LF02435 | B-14 | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/26/02 | LF02436 | T-15 | 720 | Air | 26.75 | 0.014 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/26/02 | LF02437 | T-16 | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 01/26/02 | LF02438 | O-17 | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/26/02 | LF02439 | O-18 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02440 | O-19 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02441 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/26/02 | LF02442 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/26/02 | LF02443 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-26-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/27/02 0735 to 2225**

**Data Validation Date: 01/29/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/27/02 | LF02444 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02445 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02446 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02447 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02448 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02449 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02450 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02451 | P-8 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02452 | W-11 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02453 | W-12A | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02454 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02455 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02456 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02457 | T-15 | 720 | Air | 26.75 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02458 | T-16 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02459 | O-17 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/27/02 | LF02460 | O-18 | 697 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/27/02 | LF02461 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02462 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/27/02 | LF02463 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/27/02 | LF02464 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

Key:

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-27-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/24/02 1200 to 2400**

**Data Validation Date: 01/28/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/24/02 | 7093-18-0119 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/24/02 | 7093-19-0119 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/24/02 | 7093-15-0117 | Manhattan IS #143 | 54[(a)] | Air | <7.0 | <0.050 | 0 | 0 | <8.00 | <0.0570 |
| 01/24/02 | 7094-09-0107 | Bronx PS #154 | 30[(a)] | Air | <7.0 | <0.090 | 0 | 0 | <8.00 | <0.1027 |
| 01/24/02 | 7096-12-0113 | Queens PS #199 | 966*** | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 01/24/02 | 7095-98-0113 | Brooklyn PS #274 | 156[(a)] | Air | <7.0 | <0.017 | 0 | 0 | <8.00 | <0.0197 |
| 01/24/02 | 7097-18-0110 | Staten Island PS #44 | 1176*** | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable
[(a)] - Extremely low sample volume

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: January 29, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | 2646 | 2607 | 2647 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0811 | 0818 | 0810 |
| Stop Time | 1429 | 1424 | 1431 |
| Run Time (minutes) | 378 | 366 | 380 |
| Minimum Concentration ($ug/m^3$) | 4.3 | 13.7 | 21.7 |
| Maximum Concentration ($ug/m^3$) | 148.5 | 79.0 | 99.8 |
| Average Concentration ($ug/m^3$) | 45.5 | 35.7 | 41.4 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/29/02**

| File Name | NYC893 | NYC894 | NYC895 | NYC896 | NYC898 | NYC897 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07405 | A07406 | A07407 | A07408 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, January 31, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:45 p.m. on 1/31**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 84 samples taken in and around ground zero from January 27 through January 29. EPA also sampled for asbestos at two additional lower Manhattan locations from January 25 through January 27. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,514, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St, Bronx) and P.S. 199 (329C 48th St., Queens) from January 25 through January 27. Samples were also collected at P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) on January 25 and January 27. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Nineteen air samples collected on January 28 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 30 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 30 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, January 31, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 27, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Jan 28, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Jan 28, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location V) was not sampled due to an equipment malfunction.

NYC / ER (Jan 29, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location V) was not sampled due to an equipment malfunction.
Note: Low sample volume recorded.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 28, 0745 - 2220)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 30) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to inoperative equipment.

Ambient Air Sampling Locations

NYC / ER (Jan 25 - 27) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 19 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
Samples were not collected from Sites 7 and 8 on January 26 due to equipment malfunctions.

NYC / ER (Jan 30) - Volatile Organics (Mobile Laboratory)

Aside from one compound identified above the detection limit (20 ppbv) at the South Tower (ground level), all other volatile organic compounds were not detected in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/30/02**
**Sampling Date and Time: 01/27/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/27/02 | RST-03782 | L | 720 | Air | <7.0 | <0.004 | 1*** | 1*** | 17.78 | 0.0095 |
| 01/27/02 | RST-03783 | M1 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03784 | N | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/27/02 | RST-03785 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03786 | Q | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03787 | F | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03788 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03789 | B | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03790 | C | 670 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/27/02 | RST-03791 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03792 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03793 | D | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/27/02 | RST-03794 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03795 | K-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03796 | U | 673 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 01/27/02 | RST-03797 | U-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03798 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03799 | S | 322 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0096 |
| 01/27/02 | RST-03800 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03801 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/27/02 | RST-03802 | W | 720 | Air | 19.75 | 0.011 | 1*** | 0 | 8.89 | 0.0048 |
| 01/28/02 | FB012802 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/28/02 | TB012802 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-27-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/30/02**
**Sampling Date and Time: 01/28/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/28/02 | RST-03803 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03804 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03805 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03806 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03807 | Q | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/28/02 | RST-03808 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03809 | A | 639 | Air | <7.0 | <0.004 | 0 | 1*** | 8.00 | 0.0048 |
| 01/28/02 | RST-03810 | B | 720 | Air | <7.0 | <0.004 | 2*** | 0 | 17.78 | 0.0095 |
| 01/28/02 | RST-03811 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03812 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03813 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03814 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03815 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03816 | U | 720 | Air | <7.0 | <0.004 | 1**** | 0 | 8.89 | 0.0048 |
| 01/28/02 | RST-03817 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03818 | V-Duplicate | 434 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0071 |
| 01/28/02 | RST-03819 | S | 337 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0091 |
| 01/28/02 | RST-03820 | S-Duplicate | 314 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0098 |
| 01/28/02 | RST-03821 | P | 656 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 01/28/02 | RST-03822 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03823 | W | 720 | Air | 17.20 | 0.009 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | FB012802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/28/02 | TB012802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
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F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
****Actinolite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-28-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/28/02 0745 to 2220**

**Data Validation Date: 01/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/28/02 | LF02465 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02466 | P-2 | 485 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0063 |
| 01/28/02 | LF02467 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02468 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02469 | P-5 | 715 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02470 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02471 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02472 | P-8 | 687 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/28/02 | LF02473 | W-11 | 720 | Air | 22.93 | 0.012 | 1*** | 2**** | 26.25 | 0.0140 |
| 01/28/02 | LF02474 | W-12A | 720 | Air | 34.39 | 0.018 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02475 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02476 | B-13 | 701 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/28/02 | LF02477 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02478 | T-15 | 720 | Air | 30.57 | 0.016 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02479 | T-16 | 720 | Air | 19.11 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02480 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02481 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02482 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/28/02 | LF02483 | MPHS-20 | 695 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0048 |
| 01/28/02 | LF02484 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/28/02 | LF02485 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Amosite

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-28-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/25/02 1200 to 2400**

**Data Validation Date: 01/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 01/25/02 | 7093-18-0120 | Park Row | 1440 | Air | 10.83 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7093-19-0120 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7093-15-0118 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7094-09-0108 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7096-12-0114 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7095-98-0114 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/25/02 | 7097-18-0111 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/26/02 1200 to 2400**

**Data Validation Date: 01/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/26/02 | 7093-18-0121 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/26/02 | 7093-19-0121 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/26/02 | 7093-15-0119 | Manhattan IS #143 | 696*** | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/26/02 | 7094-09-0109 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/26/02 | 7096-12-0115 | Queens PS #199 | 1286 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 01/26/02 | 7095-98-0115 | Brooklyn PS #274 | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/26/02 | 7097-18-0112 | Staten Island PS #44 | NS | Air | NS | NS | NS | NS | NS | NS |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
***** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/31/02**
**Sampling Date and Time: 01/28/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/28/02 | RST-03824 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03825 | L-Duplicate | 395 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0078 |
| 01/28/02 | RST-03826 | M1 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <10.00 | <0.0053 |
| 01/28/02 | RST-03827 | M1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03828 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03829 | J | 373 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0083 |
| 01/28/02 | RST-03830 | Q | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03831 | F | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03832 | A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03833 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03834 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03835 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03836 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03837 | D | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03838 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03839 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03840 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | - | V | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/28/02 | RST-03841 | S | 568 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 01/28/02 | RST-03842 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/28/02 | RST-03843 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 01/28/02 | RST-03844 | W | 720 | Air | 14.01 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | FB012902 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/29/02 | TB012902 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
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Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-28-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 01/31/02**
**Sampling Date and Time: 01/29/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/29/02 | RST-03845 | L | 664 | Air | <7.0 | <0.004 | 1*** | 0 | 8.00 | 0.0046 |
| 01/29/02 | RST-03846 | M1 | 620 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 01/29/02 | RST-03847 | N | 678 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/29/02 | RST-03848 | N-Duplicate | 345 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0089 |
| 01/29/02 | RST-03849 | J | 335 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0092 |
| 01/29/02 | RST-03850 | J-Duplicate | 465 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 01/29/02 | RST-03851 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03852 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03853 | A | 720 | Air | 12.74 | 0.007 | 2*** | 0 | 17.78 | 0.0095 |
| 01/29/02 | RST-03854 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03855 | C | 720 | Air | <7.0 | <0.004 | 1*** | 2*** | 26.67 | 0.0143 |
| 01/29/02 | RST-03856 | H | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/29/02 | RST-03857 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03858 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03859 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03860 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03861 | U | 241 | Air | <7.0 | <0.011 | 0 | 0 | <8.00 | <0.0128 |
| 01/29/02 | - | V | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/29/02 | RST-03862 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03863 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03864 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03865 | W | 720 | Air | 12.10 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | FB012902 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/29/02 | TB012902 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-29-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/27/02 1200 to 2400**

**Data Validation Date: 01/31/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 01/27/02 | 7093-18-0122 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/27/02 | 7093-19-0122 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/27/02 | 7093-15-0120 | Manhattan IS #143 | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/27/02 | 7094-09-0110 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/27/02 | 7096-12-0116 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/27/02 | 7095-98-0116 | Brooklyn PS #274 | 1212 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 01/27/02 | 7097-18-0113 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

ext-01-27-02pm.xls

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/30/02**

| File Name | NYC901 | NYC902 | NYC903 | NYC904 | NYC906 | NYC905 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07409 | A07410 | A07411 | A07412 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | 22 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, February 1, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 1:00 p.m. on 2/1**

**Staten Island Landfill:**

**Metals** - Five air samples were collected on January 10 and analyzed for metals. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Dioxin** - A total of 29 samples were collected on January 10, 15 and 18 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Metals** - Ten samples were collected on January 10 at various locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**PCBs** - Nine samples were collected on January 15 at various locations in Lower Manhattan. PCBs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on January 30 and January 31 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on January 30 and January 31 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, February 1, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 10) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Ambient Air Sampling Locations

NYC / ER (Jan 10) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 15) - Dioxin

All 9 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
1 sample (Location S) was not collected due to sampling equipment damage.
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 18) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 10) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 15) - PCBs

All 9 samples analyzed did not detect any PCBs.
1 sample (Location S) was not collected due to sampling equipment damage.

NYC / ER (Jan 30-31) - Particulate Monitoring (Dataram)

No particulate measurements were conducted at Stations L, N, and R due to the weather conditions.

NYC / ER (Jan 30) - Volatile Organics (Mobile Laboratory)

Resubmittal: for clarification of sampling locations from January 30.
The sample from the Austin Tobin Plaza location was collected in the breathing zone at the B-4 level.
The sample from the North Tower location was collected in the breathing zone with no steam/smoke plume observed.
The sample from the South Tower location was collected in the breathing zone at the B-5 level with no steam/smoke plume observed.
Aside from one compound identified above the detection limit (20 ppbv) at the South Tower (ground level), all other volatile organic compounds were not detected in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.

NYC / ER (Jan 31) - Volatile Organics (Mobile Laboratory)

The sample from the Austin Tobin Plaza location was collected in the breathing zone at the B-5 level.
The sample from the North Tower location was collected near the ground level from a steam/smoke plume.
The sample from the South Tower location was collected in the breathing zone at the B-6 level.
Benzene was not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower), including in the debris area at ground level.
A limited number of VOCs were detected above the detection limit (20 ppbv) in only the North Tower ground level sample.

**Air Samples - dioxin and furan results**
**Sampling Date 1/18/02**

| Sample No. | WG7057-1 | | | 06201 | | | 06202 | | | 06203 | | | 06204 | | | 06205 | | | 06206 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 5222 | | | 7425 | | | 6558.75 | | | 4441.25 | | | 4785 | | | 5685 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0038 | U | | 0.0027 | U | | 0.0030 | U | | 0.0045 | U | | 0.0042 | U | | 0.0035 |
| 12378-PeCDD | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123478-HxCDD | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123678-HxCDD | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123789-HxCDD | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 1234678-HpCDD | 0.0075 J | | 0.10 | U | 0.0013 | 0.019 | 0.0011 J | | 0.013 | U | 0.0011 | 0.015 | U | 0.0018 | 0.023 | 0.0018 J | | 0.021 | U | 0.0011 | 0.018 |
| OCDD | 0.0157 J | | 0.20 | U | | 0.038 | U | | 0.027 | U | | 0.030 | U | 0.0042 | 0.045 | U | 0.0049 | 0.042 | U | | 0.035 |
| 2378-TCDF | U | | 0.020 | U | | 0.0038 | U | | 0.0027 | U | | 0.0030 | U | | 0.0045 | U | | 0.0042 | U | | 0.0035 |
| 12378-PeCDF | U | 0.0023 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | 0.0003 J | | 0.023 | U | | 0.021 | U | | 0.018 |
| 23478-PeCDF | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123478-HxCDF | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123678-HxCDF | U | | 0.10 | U | | 0.019 | U | 0.0004 | 0.013 | 0.0003 J | | 0.015 | U | | 0.023 | 0.0004 J | | 0.021 | U | | 0.018 |
| 234678-HxCDF | U | 0.0028 | 0.10 | U | | 0.019 | U | 0.0003 | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 123789-HxCDF | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.019 | U | 0.0006 | 0.013 | 0.0007 J | | 0.015 | 0.0007 J | | 0.023 | 0.0007 J | | 0.021 | U | | 0.018 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.015 | U | | 0.023 | U | | 0.021 | U | | 0.018 |
| OCDF | U | | 0.20 | U | | 0.038 | U | | 0.027 | U | | 0.030 | U | | 0.045 | U | | 0.042 | U | | 0.035 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | 0.0007 | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0075 | | | U | | | 0.0011 | | | U | | | U | | | 0.0023 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | 0.0003 | | | U | | | 0.0003 | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0004 | | | 0.0003 | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | 0.0007 | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0399 | | | 0.0011 | | | 0.0006 | | | 0.0007 | | | 0.0009 | | | 0.0008 | | | 0.0009 | | |

CCQA 01/18/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

ERTC 1/30/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**Air Samples - dioxin and furan results**
**Sampling Date 1/18/02**

| Sample No. | 06207 | | | 06208 | | | 06209 | | | 06210 | | | 06211 | | | 06212 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | Location S | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 5571.75 | | | 5835 | | | 5220 | | | 5775 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0036 | U | | 0.0034 | U | | 0.0038 | U | | 0.0035 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0012 J | | 0.018 | U | 0.0011 | 0.017 | 0.0013 J | | 0.019 | U | 0.0009 | 0.017 | U | 0.0058 | 0.10 | U | 0.0051 | 0.10 |
| OCDD | U | | 0.036 | U | 0.0028 | 0.034 | U | | 0.038 | U | 0.0032 | 0.035 | U | | 0.20 | 0.0146 J | | 0.20 |
| 2378-TCDF | U | | 0.0036 | U | | 0.0034 | U | | 0.0038 | U | | 0.0035 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.018 | U | 0.0003 | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.018 | 0.0004 J | | 0.017 | 0.0004 J | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.018 | U | 0.0005 | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.018 | U | | 0.017 | U | | 0.019 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.036 | U | | 0.034 | U | | 0.038 | U | | 0.035 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0018 | | | U | | | 0.0013 | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | 0.0004 | | | 0.0004 | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0009 | | | U | | | U | | | 0.0007 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0009 | | | 0.0008 | | | 0.0011 | | | 0.0008 | | | 0.0401 | | | 0.0401 | | |

COC# 01/18/02 dioxin

WA # 0-236 New York (WTC) ER site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | 06123 | | 06124 | | 06113 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | R(TAGA) | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4650 | |
| Date Collected | | - | | - | | - | | 01/10/02 | | 01/10/02 | | 01/10/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.27 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Calcium | ICAP | 3.9 | 2.5 | 3.9 | 2.5 | 3.8 | 2.5 | U | 2.5 | U | 2.5 | 0.64 | 0.54 |
| Chromium | ICAP | 0.63 | 0.13 | 0.78 | 0.13 | 0.76 | 0.13 | 0.21 | 0.13 | 0.41 | 0.13 | 0.05 | 0.027 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.054 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.054 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.57 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.059 | 0.011 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.7 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.054 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 11 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.027 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.7 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.054 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.09 | 0.054 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06114 | | 06115 | | 06116 | | 06117 | | 06118 | | 06119 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3B CHURCH & VESEY ST | | B-CHURCH & DEY ST. | | B-CHURCH & DEY ST. | | C-LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | |
| Air Volume (L) | | 4080 | | 4710 | | 3032 | | 4350 | | 3320 | | 3340 | |
| Date Collected | | 01/10/02 | | 01/10/02 | | 01/10/02 | | 01/10/02 | | 01/10/02 | | 01/10/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.6 | 0.31 | 0.41 | 0.27 | U | 0.41 | 0.41 | 0.29 | 0.47 | 0.38 | U | 0.37 |
| Antimony | AA-Fur | U | 0.012 | U | 0.011 | U | 0.017 | U | 0.012 | U | 0.015 | U | 0.015 |
| Arsenic | AA-Fur | 0.019 | 0.012 | U | 0.011 | U | 0.017 | U | 0.012 | U | 0.015 | U | 0.015 |
| Barium | ICAP | 0.05 | 0.031 | 0.029 | 0.027 | U | 0.041 | 0.03 | 0.029 | 0.038 | 0.038 | U | 0.037 |
| Beryllium | ICAP | U | 0.012 | U | 0.011 | U | 0.016 | U | 0.011 | U | 0.015 | U | 0.015 |
| Cadmium | ICAP | U | 0.031 | U | 0.027 | U | 0.041 | U | 0.029 | U | 0.038 | U | 0.037 |
| Calcium | ICAP | 14 | 0.61 | 2.9 | 0.53 | 2.2 | 0.82 | 3.1 | 0.57 | 2.9 | 0.75 | 1.7 | 0.75 |
| Chromium | ICAP | 0.052 | 0.031 | 0.035 | 0.027 | 0.09 | 0.041 | U | 0.029 | U | 0.038 | 0.075 | 0.037 |
| Cobalt | ICAP | U | 0.061 | U | 0.053 | U | 0.082 | U | 0.057 | U | 0.075 | U | 0.075 |
| Copper | ICAP | 0.15 | 0.061 | 0.058 | 0.053 | U | 0.082 | U | 0.057 | U | 0.075 | U | 0.075 |
| Iron | ICAP | 14 | 0.15 | 3.5 | 0.13 | 2.2 | 0.21 | 2.1 | 0.14 | 2.6 | 0.19 | 1.2 | 0.19 |
| Lead | AA-Fur | 0.12 | 0.012 | 0.059 | 0.011 | 0.03 | 0.017 | 0.032 | 0.012 | 0.032 | 0.015 | 0.03 | 0.015 |
| Magnesium | ICAP | U | 3.1 | U | 2.7 | U | 4.1 | U | 2.9 | U | 3.8 | U | 3.7 |
| Manganese | ICAP | 0.19 | 0.031 | 0.056 | 0.027 | U | 0.041 | 0.036 | 0.029 | 0.038 | 0.038 | U | 0.037 |
| Nickel | ICAP | U | 0.061 | U | 0.053 | U | 0.082 | U | 0.057 | U | 0.075 | U | 0.075 |
| Potassium | ICAP | U | 12 | U | 11 | U | 16 | U | 11 | U | 15 | U | 15 |
| Selenium | AA-Fur | U | 0.012 | U | 0.011 | U | 0.017 | U | 0.012 | U | 0.015 | U | 0.015 |
| Silver | ICAP | U | 0.031 | U | 0.027 | U | 0.041 | U | 0.029 | U | 0.038 | U | 0.037 |
| Sodium | ICAP | 3.5 | 3.1 | U | 2.7 | U | 4.1 | U | 2.9 | U | 3.8 | U | 3.7 |
| Thallium | AA-Fur | U | 0.012 | U | 0.011 | U | 0.017 | U | 0.012 | U | 0.015 | U | 0.015 |
| Vanadium | ICAP | U | 0.061 | U | 0.053 | U | 0.082 | U | 0.057 | U | 0.075 | U | 0.075 |
| Zinc | ICAP | 0.43 | 0.061 | 0.23 | 0.053 | 0.14 | 0.082 | 0.15 | 0.057 | 0.19 | 0.075 | 0.11 | 0.075 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06120 | | 06121 | | 06122 | |
|---|---|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTHEND AVE | | 3-RECTOR PLACE & SOUTHEND AVE | | E-LIBERTY ST. & SOUTHEND AVE | |
| Air Volume (L) | | 4240 | | 4958.5 | | 4630 | |
| Date Collected | | 01/10/02 | | 01/10/02 | | 01/10/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.74 | 0.29 | 0.41 | 0.25 | 0.34 | 0.27 |
| Antimony | AA-Fur | U | 0.012 | U | 0.01 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.012 | U | 0.01 | U | 0.011 |
| Barium | ICAP | 0.043 | 0.029 | 0.039 | 0.025 | 0.027 | 0.027 |
| Beryllium | ICAP | U | 0.012 | U | 0.01 | U | 0.011 |
| Cadmium | ICAP | U | 0.029 | U | 0.025 | U | 0.027 |
| Calcium | ICAP | 6.2 | 0.59 | 2.0 | 0.5 | 1.9 | 0.54 |
| Chromium | ICAP | 0.14 | 0.029 | 0.053 | 0.025 | 0.07 | 0.027 |
| Cobalt | ICAP | U | 0.059 | U | 0.05 | U | 0.054 |
| Copper | ICAP | 0.066 | 0.059 | U | 0.05 | U | 0.054 |
| Iron | ICAP | 2.6 | 0.15 | 1.5 | 0.13 | 0.97 | 0.13 |
| Lead | AA-Fur | 0.06 | 0.012 | 0.037 | 0.01 | 0.069 | 0.011 |
| Magnesium | ICAP | U | 2.9 | U | 2.5 | U | 2.7 |
| Manganese | ICAP | 0.044 | 0.029 | 0.026 | 0.025 | U | 0.027 |
| Nickel | ICAP | U | 0.059 | U | 0.05 | U | 0.054 |
| Potassium | ICAP | U | 12 | U | 10 | U | 11 |
| Selenium | AA-Fur | U | 0.012 | U | 0.01 | U | 0.011 |
| Silver | ICAP | U | 0.029 | U | 0.025 | U | 0.027 |
| Sodium | ICAP | 4.0 | 2.9 | 3.8 | 2.5 | 2.9 | 2.7 |
| Thallium | AA-Fur | U | 0.012 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.059 | U | 0.05 | U | 0.054 |
| Zinc | ICAP | 0.13 | 0.059 | 0.10 | 0.05 | 0.098 | 0.054 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/10/02**

| Sample No. | WG7044-1 | | | 06101 | | | 06102 | | | 06103 | | | 06104 | | | 06105 | | | 06106 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Loc 3B Church & Vesey | | | B-Church & Dey St. | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7455 | | | 8040 | | | 5250 | | | 6438 | | | 6615 | | | 6566 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0025 | U | | 0.0038 | U | | 0.0031 | U | | 0.0030 | U | | 0.0030 |
| 12378-PeCDD | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123478-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123678-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123789-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| OCDD | U | | 0.20 | U | 0.0076 | 0.027 | U | | 0.025 | U | | 0.038 | U | 0.0053 | 0.031 | U | | 0.030 | U | | 0.030 |
| 2378-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0025 | U | | 0.0038 | U | | 0.0031 | U | | 0.0030 | U | | 0.0030 |
| 12378-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 23478-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123478-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 234678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 123789-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.012 | U | | 0.019 | U | | 0.016 | U | | 0.015 | U | | 0.015 |
| OCDF | U | | 0.20 | U | | 0.027 | U | | 0.025 | U | | 0.038 | U | | 0.031 | U | | 0.030 | U | | 0.030 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | 0.0023 | | | 0.0011 | | | U | | | U | | | 0.0009 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0415 | | | 0.0020 | | | 0.0014 | | | 0.0018 | | | 0.0017 | | | 0.0015 | | | 0.0018 | | |

COC# 04389
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/28/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-10-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/10/02**

| Sample No. | 06107 | | | 06108 | | | 06109 | | | 06110 | | | 06111 | | | 06112 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | S-Rector Place & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7005 | | | 6165 | | | 6002 | | | 6726 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0029 | U | | 0.0032 | U | | 0.0033 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.020 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.017 | U | 0.0004 | 0.015 | U | | 0.10 | U | 0.0044 | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.017 | U | 0.0004 | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | 0.0011 | 0.014 | U | | 0.016 | U | 0.0015 | 0.017 | U | 0.0013 | 0.015 | U | | 0.10 | 0.0060 J | | 0.10 |
| OCDD | U | | 0.029 | U | | 0.032 | U | | 0.033 | U | 0.0033 | 0.030 | U | 0.0183 | 0.20 | 0.0149 J | | 0.20 |
| 2378-TCDF | U | | 0.0029 | U | | 0.0032 | U | | 0.0033 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | 0.0003 | 0.014 | U | 0.0004 | 0.016 | U | 0.0002 | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | 0.0004 | 0.014 | U | 0.0005 | 0.016 | 0.0005 J | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | 0.0003 | 0.014 | U | 0.0003 | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | 0.0006 | 0.016 | U | 0.0003 | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0004 J | | 0.014 | U | 0.0006 | 0.016 | U | | 0.017 | 0.0003 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | 0.0005 | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.029 | U | | 0.032 | U | | 0.033 | U | | 0.030 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | 0.0008 | | | 0.0006 | | | U | | | U | | | 0.0091 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0005 | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0004 | | | U | | | U | | | 0.0003 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0014 | | | 0.0011 | | | 0.0012 | | | 0.0011 | | | 0.0401 | | | 0.0399 | | |

COC# 04389

1-10-02dioair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/15/02**

| Sample No. | WG-7055-1P | | 06151 | | 06152 | | 06153 | | 06154 | | 06155 | | 06156 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | B | | C | |
| Sample Volume (L) | 0 | | 6735 | | 6554 | | 7170 | | 6149 | | 7215 | | 6270 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of MoCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of DiCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of TrCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of TeCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of PeCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of HxCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of HpCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of OcCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Sum of NoCBs | U | 10.0 | U | 1.48 | U | 1.53 | U | 1.39 | U | 1.63 | U | 1.39 | U | 1.59 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/15/02-dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/30/02

1-15-02PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/15/02**

| Sample No. | 06157 | | 06158 | | 06159 | | 06160 | | 06161 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 5412.5 | | 6735 | | 7302.5 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.85 | U | 1.48 | U | 1.37 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/15/02-dioxin

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/15/02**

| Sample No. | WG7055-1 | | | 05151 | | | 06152 | | | 06153 | | | 06154 | | | 06155 | | | 06156 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | B-Church & Dey St. | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6735 | | | 6554 | | | 7170 | | | 6149 | | | 7215 | | | 6270 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0030 | U | | 0.0031 | U | | 0.0028 | U | | 0.0033 | U | | 0.0028 | U | | 0.0032 |
| 12378-PeCDD | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123478-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123678-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123789-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| OCDD | U | 0.0218 | 0.20 | U | | 0.030 | U | 0.0039 | 0.031 | 0.0033 J | | 0.028 | U | 0.0019 | 0.033 | 0.0037 J | | 0.028 | U | | 0.032 |
| 2378-TCDF | U | | 0.020 | U | | 0.0030 | U | | 0.0031 | U | | 0.0028 | U | | 0.0033 | U | | 0.0028 | U | | 0.0032 |
| 12378-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 23478-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123478-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 234678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 123789-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.015 | 0.0007 J | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.015 | U | | 0.014 | U | | 0.016 | U | | 0.014 | U | | 0.016 |
| OCDF | U | | 0.20 | U | | 0.030 | U | | 0.031 | U | | 0.028 | U | | 0.033 | U | | 0.028 | U | | 0.032 |
| Total TCDDs | U | | | U | | | 0.0009 | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0007 | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0401 | | | 0.0012 | | | 0.0013 | | | 0.0013 | | | 0.0014 | | | 0.0012 | | | 0.0020 | | |

COC# 01/15/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 1/30/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-15-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/15/02**

| Sample No. | 06157 | | | 06158 | | | 06159 | | | 06160 | | | 06161 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 5412.5 | | | 6735 | | | 7302.5 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0037 | U | | 0.0030 | U | | 0.0027 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.037 | 0.0032 J | | 0.030 | U | | 0.027 | U | | 0.20 | U | | 0.20 |
| 2378-TCDF | U | | 0.0037 | U | | 0.0030 | U | | 0.0027 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.018 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.037 | U | | 0.030 | U | | 0.027 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0020 | | | 0.0017 | | | 0.0013 | | | 0.0401 | | | 0.0401 | | |

COC# 01/15/02 dioxin

1-15-02dioair.xls

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 01/31/02**

| File Name | NYC911 | NYC912 | NYC913 | NYC914 | NYC916 | NYC915 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07413 | A07414 | A07415 | A07416 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | **100** | RL |
| Acetone | RL | RL | RL | RL | **280** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **26** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **24** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, February 2-4, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on 2/4**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 43 samples taken in and around ground zero on January 29 and January 30. EPA also sampled for asbestos at two additional lower Manhattan locations on January 28. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,559, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135$^{th}$ St, Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 28. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Nineteen air samples collected on January 29 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from January 27 through February 1 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/m$^3$ for all stations. These results were also less than 40 ug/m$^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from January 27 through February 1 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from February 1 through February 3 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from February 1 through February 3 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, February 4, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 29, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 30, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-duplicate) was not collected due to sampling equipment damage.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 29, 0745 - 2225)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Jan 31 - Feb 2) - Particulate Monitoring (Dataram)

No particulate measurements were conducted due to inoperative equipment.

Ambient Air Sampling Locations

NYC / ER (Jan 28) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 27) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***16.12 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***16.56 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***15.29 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 27) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.74 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 28) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***21.14 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***22.84 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***22.27 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 28) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***38.69 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 29) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***24.16 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***24.90 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***24.59 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 29) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***42.13 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 30) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.89 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***18.40 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***16.75 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 30) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***28.95 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Jan 31) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.60 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.49 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.79 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Jan 31) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***17.82 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 1) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.74 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.44 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***13.34 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 1) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.24 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 1) - Particulate Monitoring (Dataram)

No particulate measurements were conducted at Stations L, N, and R due to the weather conditions.

NYC / ER (Feb 1) - Volatile Organics (Mobile Laboratory)

Aside from several compounds identified above the detection limit (20 ppbv) at the North Tower (ground level), all other volatile organic compounds were not detected in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).
Note: There was no plume (smoke/steam vent) present at the South Tower location when the sample was collected.

NYC / ER (Feb 2) - Volatile Organics (Mobile Laboratory)

Aside from one compound identified above the detection limit (20 ppbv) at the Washing Tent, all other volatile organic compounds were not detected in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).
Note: The Austin Tobin Plaza sample was collected at ground level.

NYC / ER (Feb 3) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).
Note: The samples from the Austin Tobin Plaza (B-5 level), South Tower (B-4 level), and the North Tower locations were collected in the breathing zone.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/29/02 1200 to 2359**

**Data Validation Date: 02/01/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/29/02 | RST-03866 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03867 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03868 | N | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/29/02 | RST-03869 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03870 | Q | 720 | Air | 10.83 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03871 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03872 | A | 720 | Air | 13.38 | 0.007 | 2*** | 0 | 17.78 | 0.0095 |
| 01/29/02 | RST-03873 | B | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03874 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03875 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03876 | H-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03877 | I | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03878 | I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03879 | D | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/29/02 | RST-03880 | K | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/29/02 | RST-03881 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03882 | U | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03883 | V | 720 | Air | <7.0 | <0.004 | 0 | 1**** | 8.89 | 0.0048 |
| 01/29/02 | RST-03884 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03885 | P | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03886 | E | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/29/02 | RST-03887 | W | 720 | Air | <7.0 | <0.004 | 3*** | 0 | 26.67 | 0.0143 |
| 01/30/02 | FB013002 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/30/02 | TB013002 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Amosite

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-29-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/01/02**
**Sampling Date and Time: 01/30/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/30/02 | RST-03888 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03889 | M1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03890 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03891 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03892 | Q | 707 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03893 | F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03894 | A | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03895 | B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03896 | C | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/30/02 | RST-03897 | H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03898 | I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03899 | D | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03900 | K | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03901 | T | 693 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/30/02 | RST-03902 | U | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03903 | V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03904 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03905 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | - | P-Duplicate | NS | Air | NS | NS | NS | NS | NS | NS |
| 01/30/02 | RST-03906 | E | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03907 | E-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | RST-03908 | W | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.89 | <0.0048 |
| 01/30/02 | FB013002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/30/02 | TB013002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-30-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/29/02 0745 to 2225**

**Data Validation Date: 02/01/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 01/29/02 | LF02486 | P-1 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02487 | P-2 | 299 | Air | <7.0 | <0.009 | 1*** | 1*** | 15.75 | 0.0203 |
| 01/29/02 | LF02488 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02489 | P-4 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02490 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02491 | P-6 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/29/02 | LF02492 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02493 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02494 | W-11 | 720 | Air | 11.46 | 0.006 | 1*** | 0 | 8.75 | 0.0047 |
| 01/29/02 | LF02495 | W-12A | 720 | Air | 45.86 | 0.025 | 1*** | 0 | 8.75 | 0.0047 |
| 01/29/02 | LF02496 | W-12B | 643 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0052 |
| 01/29/02 | LF02497 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.75 | 0.0047 |
| 01/29/02 | LF02498 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02499 | T-15 | 720 | Air | 34.39 | 0.018 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02500 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02501 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02502 | O-18 | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02503 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02504 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/29/02 | LF02505 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/29/02 | LF02506 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-01-29-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/28/02 1200 to 2400**

**Data Validation Date: 02/01/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/28/02 | 7093-18-0123 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7093-19-0123 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7093-15-0121 | Manhattan IS #143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7094-09-0111 | Bronx PS #154 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7096-12-0117 | Queens PS #199 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7095-98-0117 | Brooklyn PS #274 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/28/02 | 7097-18-0114 | Staten Island PS #44 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile

NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/03/02**

| File Name | NYC939 | NYC940 | NYC941 | NYC9342 | NYC944 | NYC943 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Ten: Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07425 | A07426 | A07428 | A07427 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/02/02**

| File Name | NYC930 | NYC931 | NYC932 | NYC933 | NYC935 | NYC934 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07421 | A07422 | A07423 | A07424 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | 22 | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/01/02**

| File Name | NYC919 | NYC920 | NYC921 | NYC925 | NYC923 | NYC922 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower Plume | South Tower Plume |
| Sample Number | | | A07417 | A07419 | A07420 | A07418 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | **140** | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **44** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | **450** | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | **34** | RL |
| o-Xylene | RL | RL | RL | RL | **24** | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, February 5, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on 2/5**

**Ambient Air Samples:**

**PCBs** - Ten samples were collected on January 18 at various locations in Lower Manhattan. PCBs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 4 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 4 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, February 5, 2002**

Ambient Air Sampling Locations

NYC / ER (Jan 18) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 4) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/18/02**

| Sample No. | WG-7057-1P | | 06201 | | 06202 | | 06203 | | 06204 | | 06205 | | 06206 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | B | | C | |
| Sample Volume (L) | 0 | | 5222 | | 7425 | | 6558.75 | | 4441.25 | | 4785 | | 5685 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of MoCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of DiCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of TrCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of TeCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of PeCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of HxCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of HpCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of OcCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Sum of NoCBs | U | 10.0 | U | 1.91 | U | 1.35 | U | 1.52 | U | 2.25 | U | 2.09 | U | 1.76 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/18/02-dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 1/31/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/18/02**

| Sample No. | 06207 | | 06208 | | 06209 | | 06210 | | 06211 | | 06212 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 5571.75 | | 5835 | | 5220 | | 5775 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.79 | U | 1.71 | U | 1.92 | U | 1.73 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/18/02-dioxin

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/04/02**

| File Name | NYC949 | NYC950 | NYC951 | NYC9352 | NYC954 | NYC953 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07429 | A07430 | A07432 | A07431 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propyiene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, February 6, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 10:30 a.m. on 2/7**

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 4 and February 5 at Location N (south side of Pier 25) and Location R (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Dioxin** - A total of 11 samples were collected from January 7 through January 21 at several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 5 and February 6 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 5 and February 6 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, February 6, 2002**

Ambient Air Sampling Locations

NYC / ER (Jan 7 - Jan 21) - Dioxin (EPA-ORD)

Eleven (11) 72-hour samples were collected during this period at Park Row (4 samples), Chambers St./West St. (3 samples), and Albany St. (4 samples) at roof top locations.
One (1) 48-hour sample was collected (due to equipment problems) during this period at Chambers St./West St. at a roof top location.
None of the samples collected were above the EPA Removal Action guidelines (based on a 30-year exposure).
Note: The analytical results for all of these samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Feb 4) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations N and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Measurements were not conducted at Station L due to an equipment malfunction.
Station N values ranged from 3.4 to 656.3 ug/$m^3$ with an average of 23.5 ug/$m^3$.
Station R values ranged from 0.0 to 1,080.7 ug/$m^3$ with an average of 25.2 ug/$m^3$.

NYC / ER (Feb 5) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations N and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Measurements were not conducted at Station L due to an equipment malfunction.
Station N values ranged from 3.3 to 15,801.1 ug/$m^3$ with an average of 25.4 ug/$m^3$.
Station R values ranged from 0.2 to 4,278.3 ug/$m^3$ with an average of 20.7 ug/$m^3$.

NYC / ER (Feb 5) - Volatile Organics (Mobile Laboratory)

Aside from two compounds identified above the detection limit (20 ppbv) at three of the four locations, all other volatile organic compounds were not detected in any of the four samples collected.
Note: No visible plumes noted in these areas.

NYC / ER (Feb 6) - Volatile Organics (Mobile Laboratory)

Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.
Benzene did not exceed OSHA TWA PEL (1 ppm) at the North Tower, where it was detected.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 5, 2002

| Location | L* | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D074 | 2627 | 2642 |
| **Flow Rate (liters/minute)** | - | 2.0 | 2.0 |
| **Start Time** | - | 0700 | 0700 |
| **Stop Time** | - | 1456 | 1458 |
| **Run Time (minutes)** | - | 476 | 478 |
| **Minimum Concentration ($ug/m^3$)** | - | 3.3 | 0.2 |
| **Maximum Concentration ($ug/m^3$)** | - | 15801.1 | 4,278.3 |
| **Average Concentration ($ug/m^3$)** | - | 25.4 | 20.7 |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 4, 2002

| Location | L* | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | 2475 | 2627 | 2642 |
| **Flow Rate (liters/minute)** | - | 2.0 | 2.0 |
| **Start Time** | - | 0630 | 0630 |
| **Stop Time** | - | 1440 | 1447 |
| **Run Time (minutes)** | - | 500 | 507 |
| **Minimum Concentration ($ug/m^3$)** | - | 3.4 | 0.0 |
| **Maximum Concentration ($ug/m^3$)** | - | 656.3 | 1,080.7 |
| **Average Concentration ($ug/m^3$)** | - | 23.5 | 25.2 |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/06/02**

| File Name | NYC973 | NYC974 | NYC975 | NYC976 | NYC978 | NYC977 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07437 | A07438 | A07440 | A07439 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | **27** | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | **34** | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **45** | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | **70** | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **27** |
| MTBE | RL | RL | RL | RL | **28** | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **53** | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **27** | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/05/02**

| File Name | NYC965 | NYC966 | NYC967 | NYC968 | NYC970 | NYC969 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07433 | A07434 | A07436 | A07435 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | **24** | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | **33** | **33** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, February 7, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on February 7**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 100 samples taken in and around ground zero from January 30 through February 2. EPA also sampled for asbestos at two additional lower Manhattan locations on January 29 and January 30. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,663, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St, Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 29 and January 30. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Fifty-one air samples collected from January 30 through February 1 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Dioxin** - A total of 10 samples were collected on January 22 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**PCBs** - A total of 10 samples were collected on January 22 from several locations in Lower

Manhattan. PCBs were not detected.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, February 7, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Jan 30, 1200 - 2359 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 31, 0001 - 1200 hrs)

All 22 samples analyzed were below the TEM AHERA standard.

NYC / ER (Jan 31, 1200 - 2359 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
3 samples (Locations C, F, and V-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Feb 1, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
4 samples (Locations J, C, H-duplicate, and W) were not collected due to equipment malfunctions and/or not submitted for analysis.

NYC / ER (Feb 1, 1200 - 2359 hrs)

Results pending.

NYC / ER (Feb 2, 0001 - 1200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
2 samples (Locations F and I) were not collected due to equipment malfunctions.
1 location (Location T) was not sampled since access was not available.

Landfill Ambient Air Sampling Locations

Fresh Kills (Jan 30, 0843 - 2329 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-5 and B-13) were not collected due to equipment malfunctions.

Fresh Kills (Jan 31, 0830 - 2207 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 1, 0830 - 2230 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-2 and T-15) were not collected due to equipment malfunctions.
2 samples (Locations W-11 and W-12A) were not analyzed due to overloading of particulates.

Ambient Air Sampling Locations

NYC / ER (Jan 22) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 22) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 29 - 30) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/29/02 1200 to 2400**

**Data Validation Date: 02/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/29/02 | 7093-18-0124 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 01/29/02 | 7093-19-0124 | Chambers Street | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 01/29/02 | 7093-15-0122 | IS 143-Manhattan | 1392 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/29/02 | 7094-09-0112 | PS 154-Bronx | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 01/29/02 | 7096-12-0118 | PS 199-Queens | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 01/29/02 | 7095-98-0118 | PS 274-Brooklyn | 1390 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 01/29/02 | 7097-18-0115 | PS 44-Staten Island | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/30/02 1200 to 2400**

**Data Validation Date: 02/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/30/02 | 7093-18-0125 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/30/02 | 7093-19-0125 | Chambers Street | 1138 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 01/30/02 | 7093-15-0123 | IS 143-Manhattan | 1396 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/30/02 | 7094-09-0113 | PS 154-Bronx | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/30/02 | 7096-12-0119 | PS 199-Queens | 1386 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 01/30/02 | 7095-98-0119 | PS 274-Brooklyn | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/30/02 | 7097-18-0116 | PS 44-Staten Island | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/30/02 PM 1200 to 2359**

**Data Validation Date: 02/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 01/30/02 | TTW-00001 | Location L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00002 | Location M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00003 | Location N | 523 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0058 |
| 01/30/02 | TTW-00004 | Location J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00005 | Location Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00006 | Location Q-Duplicate | 497 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0061 |
| 01/30/02 | TTW-00007 | Location F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00008 | Location A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00009 | Location A-Duplicate | 510 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0059 |
| 01/30/02 | TTW-00010 | Location B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00011 | Location C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00012 | Location H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00013 | Location I | 427 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0071 |
| 01/30/02 | TTW-00014 | Location D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00015 | Location K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00016 | Location T | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00017 | Location U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00018 | Location V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00019 | Location S | 506 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0060 |
| 01/30/02 | TTW-00020 | Location P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00021 | Location E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | TTW-00022 | Location W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-01-30-02-PM.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/02/2002**
**Sampling Date and Time: 01/31/02 AM 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 01/31/02 | TTW-00023 | Location L | 687 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/31/02 | TTW-00024 | Location M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00025 | Location N | 462 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0066 |
| 01/31/02 | TTW-00026 | Location J | 665 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/31/02 | TTW-00027 | Location Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00028 | Location F | 387 | Air | <7.0 | <0.007 | 0 | 0 | <7.87 | <0.0078 |
| 01/31/02 | TTW-00029 | Lcation A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00030 | Location B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00031 | Location B-Duplicate | 666 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/31/02 | TTW-00032 | Location C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00033 | Location H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00034 | Location I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00035 | Location D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00036 | Location D-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00037 | Location K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00038 | Location T | 598 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0051 |
| 01/31/02 | TTW-00039 | Location U | 707 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 01/31/02 | TTW-00040 | Location V | 626 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0048 |
| 01/31/02 | TTW-00041 | Location S | 683 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 01/31/02 | TTW-00042 | Location P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00043 | Location E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | TTW-00044 | Location W | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | FB01/31/02 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 01/31/02 | TB01/31/02 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/30/02 0843 to 2329**

**Data Validation Date: 02/02002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 01/30/02 | LF02507 | P-1 | 248 | Air | <7.0 | <0.011 | 0 | 0 | <7.87 | <0.0122 |
| 01/30/02 | LF02508 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02509 | P-3 | 720 | Air | <7.0 | <0.004 | 1 | 0 | 8.75 | 0.0047 |
| 01/30/02 | LF02510 | P-4 | 44 | Air | <7.0 | <0.061 | 0 | 0 | <7.87 | <0.0689 |
| 01/30/02 | LF02511 | P-5 | NS | | | | | | | |
| 01/30/02 | LF02512 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02513 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02514 | P-8 | 657 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 01/30/02 | LF02515 | W-11 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02516 | W-12A | 720 | Air | 7.64 | 0.004 | 2*** | 1*** | 26.25 | 0.0140 |
| 01/30/02 | LF02517 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02518 | B-13 | NS | | | | | | | |
| 01/30/02 | LF02519 | B-14 | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/30/02 | LF02520 | T-15 | 720 | Air | 45.86 | 0.025 | 0 | 1**** | 8.75 | 0.0047 |
| 01/30/02 | LF02521 | T-16 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02522 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02523 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02524 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02525 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/30/02 | LF02526 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/30/02 | LF02527 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Amosite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FK-01-30-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 01/31/02 0830 to 2207**

**Data Validation Date: 02/02002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S-f/cc** |
| 01/31/02 | LF02528 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02529 | P-2 | 516 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0/0059 |
| 01/31/02 | LF02530 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02531 | P-4 | 670 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0045 |
| 01/31/02 | LF02532 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02533 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02534 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02535 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02536 | W-11 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02537 | W-12A | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0047 |
| 01/31/02 | LF02538 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02539 | B-13 | 582 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0052 |
| 01/31/02 | LF02540 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.57 | <0.0047 |
| 01/31/02 | LF02541 | T-15 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.57 | <0.0047 |
| 01/31/02 | LF02542 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02543 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02544 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02545 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02546 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 01/31/02 | LF02547 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 01/31/02 | LF02548 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
R - Sample data rejected due to no sample volume
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FK-01-31-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 02/01/02 0830 to 2230**

**Data Validation Date: 02/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 02/01/02 | LF02549 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02550 | P-2 | NS | | | | | | | |
| 02/01/02 | LF02551 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02552 | P-4 | 720 | Air | <7.0 | <0.004 | 1 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02553 | P-5 | 670 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 02/01/02 | LF02554 | P-6 | 714 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02555 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02556 | P-8 | 570 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0053 |
| 02/01/02 | LF02557 | W-11 | 720 | Air | 15.29 | 0.008 | 0 | 0 | NA(1) | NA(1) |
| 02/01/02 | LF02558 | W-12A | 720 | Air | 17.83 | 0.010 | 0 | 0 | NA(1) | NA(1) |
| 02/01/02 | LF02559 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02560 | B-13 | 720 | Air | 17.83 | 0.010 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02561 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02562 | T-15 | NS | | | | | | | |
| 02/01/02 | LF02563 | T-16 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02564 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02565 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02566 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02567 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/01/02 | LF02568 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/01/02 | LF02569 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
R - Sample data rejected due to no sample volume
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FK-02-01-02.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 01/31/02 PM 1200 to 2359**

**Data Validation Date: 02/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S-f/cc** |
| 01/31/02 | TTW-00045 | Location L | 710 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00046 | Location M-1 | 552 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0056 |
| 01/31/02 | TTW-00047 | Location N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00048 | Location J | 719 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00049 | Location Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00050 | Location F | 0 | Air | <7.0 | --- | 0 | 0 | <8.00 | --- |
| 01/31/02 | TTW-00051 | Lcation A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00052 | Location B | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00053 | Location H | 720 | Air | <7.0 | <0.004 | 1*** | 0 | 8.89 | 0.0048 |
| 01/31/02 | TTW-00054 | Location I | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00055 | Location D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00056 | Location K | 692 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 01/31/02 | TTW-00057 | Location T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00058 | Location T-Duplicate | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00059 | Location U | 618 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 01/31/02 | TTW-00060 | Location V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00061 | Location S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00062 | Location P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 01/31/02 | TTW-00063 | Location E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00064 | Location W | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.89 | <0.0048 |

**Notes: Locations C and V-duplicate were not submitted for analysis.**

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FL-01-31-02-PM.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/04/2002**
**Sampling Date and Time: 02/02/02 AM 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 02/02/02 | TTW-00104 | Location L | 707 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00105 | Location M-1 | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00106 | Location N | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00107 | Location J | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00108 | Location J-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 1*** | 8.89 | 0.0048 |
| 02/02/02 | TTW-00109 | Location Q | 307 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0100 |
| 02/02/02 | TTW-00110 | Location A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00111 | Location B | 479 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0064 |
| 02/02/02 | TTW-00112 | Location C | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00113 | Location H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00114 | Location D | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00115 | Location K | 718 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00116 | Location U | 323 | Air | <7.0 | <0.008 | 0 | 0 | <8.00 | <0.0095 |
| 02/02/02 | TTW-00117 | Locatin V | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/02/02 | TTW-00118 | Location S | 647 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0048 |
| 02/02/02 | TTW-00119 | Location S-Duplicate | 704 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/02/02 | TTW-00120 | Location P | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00121 | Location E | 533.5 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 01/31/02 | TTW-00122 | Location W | 708 | Air | 7.64 | 0.004 | 0 | 0 | <8.00 | <0.0044 |

**Notes: Locations F and I were not submitted for analysis.**

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

$NA^{(1)}$ - Not analyzed due to overloading of particulates
$NA^{(2)}$ - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FL-02-02-02-AM.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 02/01/02 AM 0001 to 1200**

**Data Validation Date: 02/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 02/01/02 | TTW-00065 | Location L | 0 | Air | <7.0 | n/a | 0 | 0 | <8.00 | n/a |
| 02/01/02 | TTW-00066 | Location M-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00067 | Location N | 711 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00068 | Location Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00069 | Location F | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00070 | Location A | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00071 | Location B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00072 | Location H | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00073 | Location I | 627 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/01/02 | TTW-00074 | Location I-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00075 | Location D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00076 | Location K | 720 | Air | 7.01 | 0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00077 | Location T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00078 | Location U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00079 | Location V | 714 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00080 | Location S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00081 | Location P | 621 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 02/01/02 | TTW-00082 | Location E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | FB02/01/02 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/01/02 | TB02/01/02 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Notes: Locations J, C, W and H-duplicate were not submitted for analysis..**

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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**Key:**
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**** Extremely low sample volume collected

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/22/02**

| Sample No. | WG7066-1 | | | 06251 | | | 06252 | | | 06253 | | | 06254 | | | 06255 | | | 06256 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | Location A | | | Location 3A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6180 | | | 5715 | | | 6255 | | | 6453 | | | 6391.13 | | | 6630 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0032 | U | | 0.0035 | U | | 0.0032 | U | | 0.0031 | U | | 0.0031 | U | | 0.0030 |
| 12378-PeCDD | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123478-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123678-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123789-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| OCDD | U | | 0.20 | U | | 0.032 | U | | 0.035 | U | | 0.032 | U | | 0.031 | U | | 0.031 | U | | 0.030 |
| 2378-TCDF | U | | 0.020 | U | | 0.0032 | U | | 0.0035 | U | | 0.0032 | U | | 0.0031 | U | | 0.0031 | U | | 0.0030 |
| 12378-PeCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 23478-PeCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123478-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 234678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 123789-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| 1234678-HpCDF | U | | 0.10 | 0.0008 J | | 0.016 | U | 0.0008 | 0.017 | U | | 0.016 | 0.0010 J | | 0.015 | U | | 0.016 | U | | 0.015 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.016 | U | | 0.017 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.015 |
| OCDF | U | | 0.20 | U | | 0.032 | U | | 0.035 | U | | 0.032 | U | | 0.031 | U | | 0.031 | U | | 0.030 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | 0.0008 | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0401 | | | 0.0020 | | | 0.0026 | | | 0.0019 | | | 0.0021 | | | 0.0015 | | | 0.0017 | | |

COC# 01/22/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 02/05/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/22/02**

| Sample No. | 06257 | | | 06258 | | | 06259 | | | 06260 | | | 06261 | | | 06262 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | Location S | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7279 | | | 6888 | | | 7424 | | | 8195 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0029 | U | | 0.0027 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0061 | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0056 | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | | 0.10 | 0.0062 J | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.029 | U | | 0.027 | U | | 0.032 | U | 0.0314 | 0.20 | 0.0156 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0029 | U | | 0.0027 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0042 | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | 0.0032 J | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | 0.0038 J | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0054 | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | 0.0038 J | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | 0.0058 J | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0038 | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.016 | U | 0.0039 | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.029 | U | | 0.027 | U | | 0.032 | 0.0093 J | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | 0.0090 | | | 0.0062 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | 0.0032 | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | 0.0142 | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0031 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0015 | | | 0.0023 | | | 0.0014 | | | 0.0016 | | | 0.0270 | | | 0.0399 | | |

COC# 01/22/02 dioxin

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/22/02**

| Sample No. | WG-7066-1P | | wtc-06251 | | wtc-06252 | | wtc-06253 | | wtc-06254 | | wtc 06255 | | wtc-06256 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | 3A | | B | | C | |
| Sample Volume (L) | 0 | | 6180 | | 5715 | | 6255 | | 6453 | | 6391.13 | | 6630 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of MoCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of DiCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of TrCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of TeCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of PeCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of HxCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of HpCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of OcCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Sum of NoCBs | U | 10.0 | U | 1.62 | U | 1.75 | U | 1.60 | U | 1.55 | U | 1.56 | U | 1.51 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# wtc-01/22/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/04/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/22/02**

| Sample No. | wtc-06257 | | wtc-06258 | | wtc-06259 | | wtc-06260 | | wtc-06261 | | wtc-06262 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7279 | | 6888 | | 7424 | | 6195 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.45 | U | 1.35 | U | 1.61 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# wtc-01/22/02-Dioxin

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Friday, February 8, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on February 8**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 62 samples taken in and around ground zero from February1 through February 3. EPA also sampled for asbestos at two additional lower Manhattan locations on January 31 and February 1. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,729, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Public School 154 (333 East 135th St, Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on January 31 and February 1, and at Intermediate School 143 (511 W. 182nd St., Manhattan) on February 1. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Thrity-seven air samples collected on February 2 and February 3 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Dioxin** - A total of 10 samples were collected on January 25 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, February 8, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 1, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Feb 2, 1200 - 2359 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
1 samples (Location N-duplicate) wase not collected due to an equipment malfunction.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Feb 3, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.
Note: Low sample volumes reported.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 2, 0830 - 2400 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 3, 0830 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-13) was not analyzed due to overloading of particulates.

Ambient Air Sampling Locations

NYC / ER (Jan 25) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 31 - Feb 1) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)

- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 13 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
1 sample from Site 6 was not collected on Feb. 1 due to an equipment malfunction.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/04/2002**
**Sampling Date: 02/01/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | S/mm2 | S~f/cc** |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | 0.5µ - 5µ | 5µ | | |
| 02/01/02 | TTW-00083 | Location L | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/01/02 | TTW-00084 | Location M-1 | 697 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0044 |
| 02/01/02 | TTW-00085 | Location M-1-Duplicate | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00086 | Location N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00087 | Location J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00088 | Location J-Duplicate | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00089 | Location Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00090 | Location F | 389 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0079 |
| 02/01/02 | TTW-00091 | Location A | 540 | Air | 7.01 | 0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00092 | Location B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00093 | Location C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00094 | Location H | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00095 | Location I | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00096 | Location D | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00097 | Location K | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00098 | Location U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00099 | Location V | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00100 | Location S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/01/02 | TTW-00101 | Location P | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00102 | Location E | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/01/02 | TTW-00103 | Location W | 720 | Air | 14.01 | 0.008 | 0 | 0 | <8.00 | <0.0043 |
| 02/01/02 | FB | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/01/02 | TB | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
## Zero sample volume collected

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

FL-02-01-02-PM.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 02/03/02 AM 001 to 1200**

**Data Validation Date: 02/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 02/03/02 | TTW-00143 | Location L | 203.13 | Air | <7.0 | <0.013 | 0 | 0 | <8.00 | <0.0152 |
| 02/03/02 | TTW-00144 | Location M-1 | 530.25 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 02/03/02 | TTW-00145 | Location N | 564.75 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0055 |
| 02/03/02 | TTW-00146 | Location J | 385.88 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0080 |
| 02/03/02 | TTW-00147 | Location Q-Duplicate | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00148 | Location Q | 224.25 | Air | <7.0 | <0.012 | 0 | 0 | <8.00 | <0.0137 |
| 02/03/02 | TTW-00149 | Location F | 616 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 02/03/02 | TTW-00150 | Location A | 540 | Air | 8.92 | 0.006 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00151 | Location B | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00152 | Location C | 436.5 | Air | <7.0 | <0.006 | 1*** | 0 | 8 | 0.0071 |
| 02/03/02 | TTW-00153 | Location H | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00154 | Location I | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00155 | Location D | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00156 | Location K | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00157 | Location U | 408.75 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0075 |
| 02/03/02 | TTW-00158 | Location V | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00159 | Location S | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00160 | Location P | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/03/02 | TTW-00161 | Location P-Duplicate | 497.25 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0062 |
| 02/03/02 | TTW-00162 | Location E | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 02/03/02 | TTW-00163 | Location W | 540 | Air | <7.0 | <0.005 | 2*** | 0 | 16 | 0.0114 |

**Sampling Locations:**
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B: SE corner of Church & Dey St.
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C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/04/2002**
**Sampling Date: 02/02/02 PM 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm2 | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm2 | S~f/cc** |
| 02/02/02 | TTW-00123 | Location L | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00124 | Location M-1 | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00125 | Location N | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00126 | Location J | 540 | Air | <7.0 | <0.005 | 2*** | 1*** | 24 | 0.0171 |
| 02/02/02 | TTW-00127 | Location Q | 540 | Air | <7.0 | <0.005 | 1*** | 0 | 8 | 0.0057 |
| 02/02/02 | TTW-00128 | Location F | 486 | Air | <7.0 | <0.006 | 1*** | 0 | 8 | 0.0063 |
| 02/02/02 | TTW-00129 | Location A | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00130 | Location B | 540 | Air | 8.28 | 0.006 | 1*** | 0 | 8 | 0.0057 |
| 02/02/02 | TTW-00131 | Location C | 633 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0049 |
| 02/02/02 | TTW-00132 | Location H | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 02/02/02 | TTW-00133 | Location I | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 02/02/02 | TTW-00134 | Location D | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00135 | Location K | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/02/02 | TTW-00136 | Location U | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00137 | Location V | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 02/02/02 | TTW-00138 | Location S | 462 | Air | <7.0 | <0.006 | 1*** | 0 | 8 | 0.0067 |
| 02/02/02 | TTW-00139 | Location S-Duplicate | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00140 | Location P | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00141 | Location E | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/02/02 | TTW-00142 | Location W | 450 | Air | 10.19 | 0.009 | 0 | 0 | <8.00 | <0.0068 |
| 02/02/02 | FB | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/02/02 | TB | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
## Zero sample volume collected

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm2, volume 1200 L, for 25 mm filter (TEM)**

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/25/02**

| Sample No. | WG7072-1 | | | 06301 | | | 06302 | | | 06303 | | | 06304 | | | 06305 | | | 06306 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 6931 | | | 6479 | | | 5414 | | | 6448 | | | 6375 | | | 6206 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0029 | U | | 0.0031 | U | | 0.0037 | U | | 0.0031 | U | | 0.0031 | U | | 0.0032 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 1234678-HpCDD | U | 0.0057 | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | 0.0012 J | | 0.016 | U | | 0.016 |
| OCDD | U | | 0.20 | U | | 0.029 | U | 0.0047 | 0.031 | U | | 0.037 | U | | 0.031 | 0.0059 J | | 0.031 | U | | 0.032 |
| 2378-TCDF | U | | 0.020 | U | | 0.0029 | U | | 0.0031 | U | | 0.0037 | U | | 0.0031 | U | | 0.0031 | U | | 0.0032 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 234678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 123789-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.018 | U | | 0.016 | U | | 0.016 | U | | 0.016 |
| OCDF | U | | 0.20 | U | | 0.029 | U | | 0.031 | U | | 0.037 | U | | 0.031 | U | | 0.031 | U | | 0.032 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | 0.0020 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0408 | | | 0.0013 | | | 0.0015 | | | 0.0019 | | | 0.0017 | | | 0.0015 | | | 0.0014 | | |

COC# 01/25/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 2/06/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-25-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/25/02**

| Sample No. | 06307 | | | 06308 | | | 06309 | | | 06310 | | | 06311 | | | 06312 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | P-Albany St. & South End | | | Location S | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6380 | | | 6293 | | | 6684.5 | | | 6256 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0031 | U | | 0.0032 | U | | 0.0030 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0015 J | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.031 | U | | 0.032 | U | | 0.030 | U | | 0.032 | U | | 0.20 | U | | 0.20 |
| 2378-TCDF | U | | 0.0031 | U | | 0.0032 | U | | 0.0030 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.016 | U | | 0.016 | U | | 0.015 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.031 | U | | 0.032 | U | | 0.030 | U | | 0.032 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | 0.0015 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0015 | | | 0.0014 | | | 0.0012 | | | 0.0016 | | | 0.0409 | | | 0.0401 | | |

COC# 01/25/02 dioxin

1-25-02dioair.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 02/02/02 0830 to 2400**

**Data Validation Date: 02/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/02/02 | LF02570 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02571 | P-2 | 664 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 02/02/02 | LF02572 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02573 | P-4 | 663 | Air | <7.0 | <0.004 | 1 | 0 | <8.75 | <0.0051 |
| 02/02/02 | LF02574 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02575 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02576 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02577 | P-8 | 720 | Air | <7.0 | <0.005 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02578 | W-11 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02579 | W-12A | 720 | Air | 34.39 | 0.018 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02580 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02581 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02582 | B-14 | 720 | Air | 25.48 | 0.014 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02583 | T-15 | 720 | Air | 23.57 | 0.013 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02584 | T-16 | 720 | Air | 15.29 | 0.008 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02585 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02586 | O-18 | 691 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 02/02/02 | LF02587 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02588 | MPHS-20 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 02/02/02 | LF02589 | Lot Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/02/02 | LF02590 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
R - Sample data rejected due to no sample volume
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-02-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 02/03/02 0830 to 2400**

**Data Validation Date: 02/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/03/02 | LF02591 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02592 | P-2 | 682 | Air | <7.0 | <0.004 | 1*** | 0 | 8.75 | 0.0049 |
| 02/03/02 | LF02593 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02594 | P-4 | 720 | Air | <7.0 | <0.004 | 1 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02595 | P-5 | 717 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02596 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02597 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02598 | P-8 | 569 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0053 |
| 02/03/02 | LF02599 | W-11 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02600 | W-12A | 720 | Air | 21.66 | 0.012 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02601 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02602 | B-13 | 720 | Air | <7.0 | <0.004 | NA(1) | NA(1) | NA(1) | NA(1) |
| 02/03/02 | LF02603 | B-14 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02604 | T-15 | 720 | Air | 10.19 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02605 | T-16 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02606 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02607 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02608 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02609 | MPHS-20 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/03/02 | LF02610 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/03/02 | LF02611 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
R - Sample data rejected due to no sample volume
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-02-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 02/01/02 1200 to 2400**

**Data Validation Date: 02/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm² | S~f/cc* |
| 02/01/02 | 7093-18-0127 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7093-19-0127 | Chambers Street | 1242 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/01/02 | 7093-15-125 | IS 143 Manhattan | NS | | | | | | | |
| 02/01/02 | 7094-09-0115 | PS 154-Bronx | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7095-98-0121 | PS 274-Brooklyn | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7096-12-0121 | PS 199-Queens | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7097-18-0117 | PS 44-Staten Island | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 01/31/02 1200-2400**

**Data Validation Date: 02/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 01/31/02 | 7093-18-0126 | Park Row | 1170 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 01/31/02 | 7093-19-0126 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 01/31/02 | 7093-15-0124 | PS 143-Manhattan | 692 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 01/31/02 | 7094-09-0114 | PS 154-Bronx | 946 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 01/31/02 | 7096-12-0120 | PS 199-Queens | 1328 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 01/31/02 | 7095-98-0120 | PS 274-Brooklyn | 460 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0067 |
| 01/31/02 | 7097-18-0117 | PS 44-Staten Island | 1014 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, February 9-11, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 9:30 a.m. on February 12**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 21 samples taken in and around ground zero on February 4. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,750, with 31 samples above the standard (27 of these were collected prior to September 30, the other four were collected on October 9, November 27, December 27 and January 14).

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 6, and from February 8 through February 10 at Location N (south side of Pier 25), Location R (northwest side of Stuyvesant High School) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Dioxin** - A total of 10 samples were collected on January 29 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from February 7 through February 10 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from February 7 through February 10 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**VOC's** - Samples taken on February 9, directly in a plume of smoke emanating from a 4-inch subsurface pipe in Basement Level #3 of the Austin Tobin Parking Garage, showed very high levels of numerous VOC's. Actions were taken by the fire department to reduce the smoke, which is no longer being emitted from this pipe, however follow-up work to trace the pipe continues.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, February 11, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 3, 1200 - 2359 hrs)

Results pending.

NYC / ER (Feb 4, 0001 - 1200 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

Ambient Air Sampling Locations

NYC / ER (Jan 29) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 6) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 26.50 $ug/m^3$ with a maximum reading of 735.72 $ug/m^3$.
Station N had an average 25.79 $ug/m^3$ with a maximum reading of 734.76 $ug/m^3$.
Station R had an average 24.67 $ug/m^3$ with a maximum reading of 573.18 $ug/m^3$.
Note: Minimum readings are no longer being measured.

NYC / ER (Feb 7) - Particulate Monitoring (Dataram)

Particulate monitoring at Stations L, N, and R was not conducted due to the weather conditions.

NYC / ER (Feb 8) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated 8 hours.
Station L had an average of 26.83 $ug/m^3$ with a maximum reading of 383.3 $ug/m^3$.
Station N had an average 26.14 $ug/m^3$ with a maximum reading of 210.27 $ug/m^3$.
Station R had an average 26.58 $ug/m^3$ with a maximum reading of 247.03 $ug/m^3$.

NYC / ER (Feb 9) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 23.56 ug/m$^3$ with a maximum reading of 60.66 ug/m$^3$.
Station N had an average 20.92 ug/m$^3$ with a maximum reading of 52.81 ug/m$^3$.
Station R had an average 20.49 ug/m$^3$ with a maximum reading of 103.14 ug/m$^3$.

NYC / ER (Feb 10) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 31.95 ug/m$^3$ with a maximum reading of 108.68 ug/m$^3$.
Station N had an average 41.10 ug/m$^3$ with a maximum reading of 369.16 ug/m$^3$.
Station R had an average 33.01 ug/m$^3$ with a maximum reading of 77.83 ug/m$^3$.

NYC / ER (Feb 7) - Volatile Organics (Mobile Laboratory)

Numerous compounds were identified above the detection limit (20 ppbv) at the South Tower in a ground level plume sample.
VOCs were not detected in any of the three other samples collected (Washing Tent, Austin Tobin Plaza, and North Tower).

NYC / ER (Feb 8) - Volatile Organics (Mobile Laboratory)

Numerous compounds were identified above the detection limit (20 ppbv) at the South Tower in a ground level plume sample.
VOCs were not detected in any of the three other samples collected (Washing Tent, Austin Tobin Plaza, and North Tower).

NYC / ER (Feb 9) - Volatile Organics (Mobile Laboratory)

Black smoke from an unknown source identified from a 4-inch subsurface pipe at the B-3 level of the Austin Tobin garage.
Extremely elevated levels of VOCs identified at the end of the pipe.
Breathing level sample at the Austion Tobin Plaza location did not detect any VOCs.
Actions taken by fire department to reduce smoke.
Smoke is reportedly no longer being emitted from this pipe, however followup work to trace the pipe towards Vescey St. continues.
Benzene was not detected above the detection limit (20 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, and South Tower), including in the debris area at ground level.
VOCs were not detected in two of the samples collected (Washing Tent, Austin Tobin Plaza).

NYC / ER (Feb 10) - Volatile Organics (Mobile Laboratory)

Numerous compounds were identified above the detection limit (20 ppbv) at the South Tower in a ground level plume sample.
Aside from one compound, VOCs were not detected in any of the three other samples collected (Washing Tent, Austin Tobin Plaza, and North Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 02/04/02 0001 to 1200**

**Data Validation Date: 02/05/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/04/02 | TTW-00185 | L | 676 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 02/04/02 | TTW-00186 | M1 | 472.5 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0065 |
| 02/04/02 | TTW-00187 | N | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00188 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <11.43 | <0.0061 |
| 02/04/02 | TTW-00189 | Q | 720 | Air | 12.10 | 0.006 | 0 | 0 | <11.43 | <0.0061 |
| 02/04/02 | TTW-00190 | F | 464.25 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 02/04/02 | TTW-00191 | F-duplicate | 540 | Air | 8.28 | 0.006 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00192 | A | 524.25 | Air | 7.01 | 0.005 | 0 | 0 | <8.00 | <0.0059 |
| 02/04/02 | TTW-00193 | B | 640 | Air | 7.64 | 0.005 | ***1 | 0 | 8 | 0.0048 |
| 02/04/02 | TTW-00194 | C | 720 | Air | 10.83 | 0.006 | ***4 | 0 | 35.56 | 0.0190 |
| 02/04/02 | TTW-00195 | H | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00196 | H-Duplicate | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00197 | I | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00198 | D | 720 | Air | <7.0 | <0.004 | ***1 | 0 | 8.89 | 0.0048 |
| 02/04/02 | TTW-00199 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/04/02 | TTW-00200 | U | 420 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 02/04/02 | TTW-00201 | V | 540 | Air | 7.64 | 0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00202 | S | 677 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 02/04/02 | TTW-00203 | P | 629.13 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/04/02 | TTW-00204 | E | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00205 | W | 441 | Air | 8.28 | 0.007 | 0 | 0 | <8.00 | <0.0070 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/29/02**

| Sample No. | WG7078-1 | | | 06351 | | | 06352 | | | 06353 | | | 06354 | | | 06355 | | | 06356 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 6045 | | | 7096.5 | | | 7500 | | | 7308 | | | 5850 | | | 5945 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0033 | U | | 0.0028 | U | | 0.0027 | U | | 0.0027 | U | | 0.0034 | U | | 0.0034 |
| 12378-PeCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123478-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123678-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123789-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 1234678-HpCDD | U | | 0.10 | 0.0021 J | | 0.017 | U | 0.0008 | 0.014 | U | | 0.013 | U | 0.0010 | 0.014 | U | | 0.017 | U | | 0.017 |
| OCDD | U | 0.0230 | 0.20 | U | | 0.033 | 0.0049 J | | 0.028 | 0.0026 J | | 0.027 | U | 0.0020 | 0.027 | U | | 0.034 | U | | 0.034 |
| 2378-TCDF | U | | 0.020 | U | | 0.0033 | U | | 0.0028 | U | | 0.0027 | U | | 0.0027 | U | | 0.0034 | U | | 0.0034 |
| 12378-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 23478-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123478-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 234678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 123789-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.017 | U | 0.0013 | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.017 | U | | 0.017 |
| OCDF | U | | 0.20 | U | | 0.033 | U | | 0.028 | U | | 0.027 | U | | 0.027 | U | | 0.034 | U | | 0.034 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | 0.0021 | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0424 | | | 0.0022 | | | 0.0022 | | | 0.0018 | | | 0.0021 | | | 0.0024 | | | 0.0021 | | |

COC# 01/29/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 2/07/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-29-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/29/02**

| Sample No. | 06357 | | | 06358 | | | 06359 | | | 06360 | | | 06361 | | | 06362 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | P-Albany St. & South End | | | E-Liberty St. & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7365 | | | 6322 | | | 5421 | | | 6177 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0032 | U | | 0.0037 | U | | 0.0033 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.032 | U | | 0.037 | U | | 0.033 | U | | 0.20 | U | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0032 | U | | 0.0037 | U | | 0.0033 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.032 | U | | 0.037 | U | | 0.033 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0015 | | | 0.0022 | | | 0.0024 | | | 0.0019 | | | 0.0416 | | | 0.0410 | | |

COC# 01/29/02 dioxin

1-29-02dioair.xls

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 10, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0641 | 0644 | 0639 |
| **Stop Time** | 1449 | 1453 | 1446 |
| **Run Time (minutes)** | 488 | 489 | 487 |
| **Maximum Concentration ($ug/m^3$)** | 108.68 | 369.16 | 77.83 |
| **Average Concentration ($ug/m^3$)** | 31.95 | 41.10 | 33.01 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 8, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0644 | 0646 | 0641 |
| Stop Time | 1444 | 1446 | 1441 |
| Run Time (minutes) | 480 | 480 | 480 |
| Maximum Concentration ($ug/m^3$) | 383.3 | 210.27 | 247.03 |
| Average Concentration ($ug/m^3$) | 26.83 | 26.14 | 26.58 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 9, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0701 | 0704 | 0658 |
| **Stop Time** | 1456 | 1500 | 1453 |
| **Run Time (minutes)** | 475 | 476 | 471 |
| **Maximum Concentration ($ug/m^3$)** | 60.66 | 52.81 | 103.14 |
| **Average Concentration ($ug/m^3$)** | 23.56 | 20.92 | 20.49 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 6, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0643 | 0643 | 0643 |
| **Stop Time** | 1440 | 1440 | 1440 |
| **Run Time (minutes)** | 477 | 477 | 477 |
| **Maximum Concentration ($ug/m^3$)** | 735.72 | 734.76 | 573.18 |
| **Average Concentration ($ug/m^3$)** | 26.50 | 25.79 | 24.67 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/10/02**

| File Name | NYC1014 | NYC1015 | NYC1016 | NYC1017 | NYC1020 | NYC1018 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | Plume |
| Sample Number | | | A07453 | A07454 | A07456 | A07455 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | **160** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **410** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **340** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **220** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | **180** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | **24** |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **280** |
| MTBE | RL | RL | RL | **24** | RL | **3100** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **140** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **240** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | **42** |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **78** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **140** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | **55** |
| o-Xylene | RL | RL | RL | RL | RL | **33** |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | **21** |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | **31** |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/08/02**

| File Name | NYC990 | NYC991 | NYC992 | NYC993 | NYC996 | NYC994 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower Plume |
| Sample Number | | | A07445 | A07446 | A07448 | A07447 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | **83** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **130** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **75** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | **95** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **160** |
| MTBE | RL | RL | RL | RL | RL | **1100** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **54** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **100** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **33** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **57** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | **30** |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/09/02**

| File Name | NYC999 | NYC1000 | NYC1001 | NYC1002 | NYC1005 | NYC1003 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | Austin Tobin Plaza Parking Garage 4" Pipe | South Tower Plume |
| Sample Number | | | A07449 | A07450 | A07451 | A07452 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 20 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 250 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | **990000** | **120** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **60** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **220** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | **15000** | RL |
| Vinyl Chloride | RL | RL | RL | RL | **11000** | RL |
| 1,3-Butadiene | RL | RL | RL | RL | **400000** | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | **2300** | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **130** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **21000** | **120** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **200** |
| MTBE | RL | RL | RL | RL | RL | **1200** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **80** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | **2800** | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **150** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | **610000** | RL |
| Heptane | RL | RL | RL | RL | **3700** | **24** |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | **290** | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | **45000** | **42** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **71** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | **4800** | RL |
| Ethylbenzene | RL | RL | RL | RL | **4700** | RL |
| m&p-Xylenes | RL | RL | RL | RL | **4000** | **36** |
| o-Xylene | RL | RL | RL | RL | **4300** | **23** |
| Styrene | RL | RL | RL | RL | **17000** | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | **1600** | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | **1300** | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | **880** | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/07/02**

| File Name | NYC981 | NYC982 | NYC983 | NYC984 | NYC986 | NYC985 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | Plume |
| Sample Number | | | A07441 | A07442 | A07443 | A07444 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | **54** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **58** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **46** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | **63** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **88** |
| MTBE | RL | RL | RL | RL | RL | **580** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **39** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **52** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **24** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **42** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Tuesday, February 12, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on February 12**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 71 samples taken in and around ground zero from February 3 through February 5. EPA also sampled for asbestos at two additional lower Manhattan locations from February 2 through February 4. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. One sample, taken on February 5 at Location C (Trinity & Liberty Streets) showed 88 structures per square millimeter. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,827, with 32 samples above the standard (27 of these were collected prior to September 30, the other five were collected on October 9, November 27, December 27, January 14 and February 5).

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from February 2 through February 4. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Thirty-four air samples collected on February 4 and February 5 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 11 at Location R (northwest side of Stuyvesant High School) and Location L (northeast side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible

exposure limit for particulates.

**Dioxin** - A total of 6 samples were collected from January 21 through January 28 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 11 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 11 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, February 12, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 3, 1200 - 2359 hrs)

All 21 samples analyzed were below the TEM AHERA standard.
1 location (Location T) was not sampled since access was not available.

NYC / ER (Feb 4, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Location L and Q) were not collected/analyzed due to equipment malfunctions.
1 sample (Location M1) was not collected.
Note: Low sample volume recorded.
Note: Locations H, I, and P are no longer being monitored.

NYC / ER (Feb 5, 0001 - 1200 hrs)

1 of 16 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location C (88 S/mm$^2$).
2 samples (Locations F and D) were not collected due to equipment malfunctions.
1 sample (Location M1) was not collected.
Note: Low sample volume recorded.

NYC / ER (Feb 5, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location M1) was not collected.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 4, 0743 - 2200 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
4 samples (Locations W-11, B-14, T-16, and MPHS-20) were not analyzed due to overloading of particulates.

Fresh Kills (Feb 5, 0743 - 2200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Ambient Air Sampling Locations

NYC / ER (Jan 21 - Jan 28) - Dioxin (EPA-ORD)

Six (6) 72-hour samples were collected during this period at Park Row (2 samples), Chambers St./West St. (2 samples), and Albany St. (2 samples) at roof top locations. None of the samples collected were above the EPA Removal Action guidelines (based on a 30-year exposure).
Note: The analytical results for all but one of these samples (Park Row during the period January 21-24) indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Feb 2 - 4) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 21 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.
Resubmittal: Corrected spreadsheet for Feb. 1 attached. No changes in results.

NYC / ER (Feb 11) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and R) were below the OSHA TWA.
Equipment malfunction at Station N.
Instruments operated approximately 8 hours.
Station L had an average of 7.42 $ug/m^3$ with a maximum reading of 80.51 $ug/m^3$.
Station R had an average 8.17 $ug/m^3$ with a maximum reading of 45.52 $ug/m^3$.

NYC / ER (Feb 11) - Volatile Organics (Mobile Laboratory)

Aside from two compounds detected from a ground level plume sample at the South Tower, volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/05/02**
**Sampling Date and Time: 02/03/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 02/03/02 | TTW-00164 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00165 | M1 | 720 | Air | 14.01 | 0.007 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00166 | N | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/03/02 | TTW-00167 | J | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/03/02 | TTW-00168 | Q | 540 | Air | 12.74 | 0.009 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00169 | F | 540 | Air | 8.28 | 0.006 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00170 | A | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00171 | B | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00172 | B- Duplicate | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00173 | C | 540 | Air | 29.30 | 0.021 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00174 | H | 301.5 | Air | 10.19 | 0.013 | 0 | 0 | <8.00 | <0.0102 |
| 02/03/02 | TTW-00175 | I | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00176 | I-Duplicate | 468.75 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 02/03/02 | TTW-00177 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00178 | K | 540 | Air | <7.0 | <0.005 | ***1 | 0 | 8 | 0.0057 |
| 02/03/02 | TTW-00179 | U | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/03/02 | TTW-00180 | V | 720 | Air | 9.55 | 0.005 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00181 | S | 611 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 02/03/02 | TTW-00182 | P | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00183 | E | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.89 | <0.0048 |
| 02/03/02 | TTW-00184 | W | 521.5 | Air | 17.83 | 0.013 | 0 | 0 | <8.89 | <0.0066 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/06/02**
**Sampling Date and Time: 02/04/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/04/02 | TTW-00206 | L -Dup | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00207 | N | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00208 | J | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/04/02 | TTW-00209 | Q | 30 | Air | <7.0 | <0.090 | 0 | 0 | NA(2) | NA(2) |
| 02/04/02 | TTW-00210 | F | 450 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0068 |
| 02/04/02 | TTW-00211 | A | 578 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0053 |
| 02/04/02 | TTW-00212 | B | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00213 | C | 450 | Air | <7.0 | <0.006 | ***3 | 0 | 24 | 0.0205 |
| 02/04/02 | TTW-00214 | C- Dup | 540 | Air | <7.0 | <0.005 | ***1 | ***1 | 16 | 0.0114 |
| 02/04/02 | TTW-00215 | D | 540 | Air | <7.0 | <0.005 | 0 | ***1 | 8 | 0.0057 |
| 02/04/02 | TTW-00216 | K | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00217 | T | 448.88 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0069 |
| 02/04/02 | TTW-00218 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/04/02 | TTW-00219 | V | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/04/02 | TTW-00220 | S | 708 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/04/02 | TTW-00221 | E | 515.25 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0060 |
| 02/04/02 | TTW-00222 | W | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |

*Sample L- Pump Fault - No Sample Submitted*
*Sample Q - Sample Volume too low - Not analyzed for TEM as per Chain of Custody*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 02/05/02 0001 to 1200**

**Data Validation Date: 02/07/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/05/02 | Field Blank | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/05/02 | Trip Blank | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/05/02 | TTW-00224 | L | 654 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 02/05/02 | TTW-00225 | N | 401.25 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0077 |
| 02/05/02 | TTW-00226 | N-Dup | 509.25 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0060 |
| 02/05/02 | TTW-00227 | J | 630 | Air | 8.28 | 0.005 | ***3 | 0 | 24 | 0.0147 |
| 02/05/02 | TTW-00228 | Q | 568.75 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0054 |
| 02/05/02 | TTW-00229 | A | 528 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 02/05/02 | TTW-00230 | B | 540 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/05/02 | TTW-00231 | C | 513.75 | Air | <7.0 | <0.005 | ***10 | ***1 | 88 | 0.0659 |
| 02/05/02 | TTW-00232 | D-Dup | 402.5 | Air | <7.0 | <0.007 | 0 | ***1 | 8 | 0.0077 |
| 02/05/02 | TTW-00233 | K | 493.5 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0062 |
| 02/05/02 | TTW-00234 | T | 182.25 | Air | <7.0 | <0.015 | 0 | 0 | <8.00 | <0.0169 |
| 02/05/02 | TTW-00235 | U | 630 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0049 |
| 02/05/02 | TTW-00236 | V | 630 | Air | <7.0 | <0.004 | ***1 | ***1 | 16 | 0.0098 |
| 02/05/02 | TTW-00237 | S | 535.5 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0056 |
| 02/05/02 | TTW-00238 | E | 540 | Air | 7.01 | 0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/05/02 | TTW-00239 | W | 630 | Air | <7.0 | <0.004 | ***4 | 0 | 32 | 0.0196 |

*Location F - No sample - Pump Fault*
*Location D - No sample - Pump Fault*

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**Key:**
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** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/07/02**
**Sampling Date and Time:** **2/5/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/05/02 | TTW-00240 | L | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00241 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00242 | J | 680 | Air | <7.0 | <0.004 | ***3 | 0 | 24 | 0.0136 |
| 02/05/02 | TTW-00243 | Q | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00244 | F | 720 | Air | 7.01 | 0.004 | 0 | *****1 | 8.89 | 0.0048 |
| 02/05/02 | TTW-00245 | A | 707 | Air | <7.0 | <0.004 | ***4 | ***1 | 44.44 | 0.0242 |
| 02/05/02 | TTW-00246 | B | 720 | Air | 7.64 | 0.004 | ***3 | ***1 | 35.56 | 0.0190 |
| 02/05/02 | TTW-00247 | B-Dup | 720 | Air | <7.0 | <0.004 | ***1 | ***1 | 17.78 | 0.0095 |
| 02/05/02 | TTW-00248 | C | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00249 | D | 720 | Air | <7.0 | <0.004 | ***1 | 0 | 8.89 | 0.0048 |
| 02/05/02 | TTW-00250 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00251 | T | 705 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0049 |
| 02/05/02 | TTW-00252 | U | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00253 | V | 683 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 02/05/02 | TTW-00254 | V-Dup | 715 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00255 | S | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00256 | E | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/05/02 | TTW-00257 | W | 720 | Air | <7.0 | <0.004 | ***1 | ***1 | 17.78 | 0.0095 |

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**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 02/04/2002 0743 to 2200**

**Data Validation Date: 02/06/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/04/02 | LFO02612 | P-1 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02613 | P-2 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02614 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02615 | P-4 | 668 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 02/04/02 | LFO02616 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02617 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02618 | P-7 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02619 | P-8 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02620 | W-11 | 720 | Air | 33.12 | 0.018 | NA (1) | NA (1) | NA (1) | NA (1) |
| 02/04/02 | LFO02621 | W-12A | 720 | Air | 22.93 | 0.012 | ***1 | ***3 | 35 | 0.0187 |
| 02/04/02 | LFO02622 | W-12B | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02623 | B-13 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02624 | B-14 | 720 | Air | <7.0 | <0.004 | NA (1) | NA (1) | NA (1) | NA (1) |
| 02/04/02 | LFO02625 | T-15 | 720 | Air | 12.74 | 0.007 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02626 | T-16 | 720 | Air | 8.92 | 0.005 | NA (1) | NA (1) | NA (1) | NA (1) |
| 02/04/02 | LFO02627 | O-17 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02628 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02629 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/04/02 | LFO02630 | MPHS-20 | 720 | Air | <7.0 | <0.004 | NA (1) | NA (1) | NA (1) | NA (1) |
| 02/04/02 | LFO02631 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/04/02 | LFO02632 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
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NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/5/02 0743 to 2200**

**Data Validation Date: 02/08/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/05/02 | LF02633 | P-1 | 702 | Air | 26.75 | 0.015 | ***3 | 0 | 26.25 | 0.0144 |
| 02/05/02 | LF02634 | P-2 | 647 | Air | <7.0 | <0.004 | 0 | ***1 | 7.87 | 0.0047 |
| 02/05/02 | LF02635 | P-3 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02636 | P-4 | 698 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0048 |
| 02/05/02 | LF02637 | P-5 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02638 | P-6 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02639 | P-7 | 684 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 02/05/02 | LF02640 | P-8 | 649 | Air | 24.20 | 0.014 | ***2 | ***1 | 23.62 | 0.0140 |
| 02/05/02 | LF02641 | W-11 | 720 | Air | 52.23 | 0.028 | ***7 | 0 | 61.24 | 0.0327 |
| 02/05/02 | LF02642 | W-12A | 714 | Air | 10.19 | 0.006 | ***4 | 0 | 35 | 0.0189 |
| 02/05/02 | LF02643 | W-12B | 720 | Air | 7.64 | 0.004 | ***1 | 0 | 8.75 | 0.0047 |
| 02/05/02 | LF02644 | B-13 | 720 | Air | 15.29 | 0.008 | ***1 | 0 | 8.75 | 0.0047 |
| 02/05/02 | LF02645 | B-14 | 720 | Air | 12.10 | 0.007 | ***1 | ***2 | 26.25 | 0.0140 |
| 02/05/02 | LF02646 | T-15 | 720 | Air | 11.46 | 0.006 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02647 | T-16 | 720 | Air | 8.92 | 0.005 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02648 | O-17 | 694 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0047 |
| 02/05/02 | LF02649 | O-18 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02650 | O-19 | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0047 |
| 02/05/02 | LF02651 | MPHS-20 | 89 | Air | <7.0 | <0.030 | ***2 | 0 | 15.75 | 0.0681 |
| 02/05/02 | LF02652 | Lot Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/05/02 | LF02653 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 02/01/02 1200 to 2400**

**Data Validation Date: 02/05/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 02/01/02 | 7093-18-0127 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7093-19-0127 | Chambers Street | 1242 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/01/02 | 7093-15-125 | IS 143 Manhattan | NS | | | | | | | |
| 02/01/02 | 7094-09-0115 | PS 154-Bronx | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7095-98-0121 | PS 274-Brooklyn | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7096-12-0121 | PS 199-Queens | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/01/02 | 7097-18-0118 | PS 44-Staten Island | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 02/02/02 1200 to 2400**

**Data Validation Date: 02/05/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume (L)** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc* |
| 02/02/02 | 7093-15-0126 | PS 143-Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/02/02 | 7093-18-0128 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/02/02 | 7093-19-0128 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/02/02 | 7094-09-0116 | PS 154-Bronx | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/02/02 | 7095-98-0122 | PS 274-Brooklyn | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/02/02 | 7096-12-0122 | PS 199-Queens | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/02/02 | 7097-18-0119 | PS 44-Staten Island | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
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n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/06/02**
**Sampling Date and Time: 02/03/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/03/02 | 7093-18-0129 | Park Row | 1286 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/03/02 | 7093-19-0129 | Chambers Street | 1374 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/03/02 | 7093-15-0127 | I.S. 143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/03/02 | 7094-09-0117 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/03/02 | 7096-12-0123 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/03/02 | 7095-98-0123 | P.S. 274(Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/03/02 | 7097-18-0120 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 2/4/02 1200 to 2400

**Data Validation Date: 02/08/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/04/02 | 7093-18-0130 | Park Row | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/04/02 | 7093-19-0130 | Chambers Street | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/04/02 | 7093-15-0128 | I.S. 143 | 1152 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/04/02 | 7094-09-0118 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/04/02 | 7096-12-0124 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/04/02 | 7095-98-0124 | P.S. 274(Brooklyn) | 1214 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/04/02 | 7097-18-0121 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 11, 2002

| Location | L | N* | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | - | D074 |
| **Flow Rate (liters/minute)** | 2.0 | - | 2.0 |
| **Start Time** | 0638 | - | 0636 |
| **Stop Time** | 1438 | - | 1436 |
| **Run Time (minutes)** | 480 | - | 480 |
| **Maximum Concentration ($ug/m^3$)** | 80.51 | - | 45.52 |
| **Average Concentration ($ug/m^3$)** | 7.42 | - | 8.17 |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/11/02**

| File Name | NYC1023 | NYC1024 | NYC1025 | NYC1026 | NYC1028 | NYC1027 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | Plume |
| Sample Number | | | A07457 | A07458 | A07460 | A07459 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | 38 |
| Acetone | RL | RL | RL | RL | RL | 40 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Wednesday, February 13, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 10:15 a.m. on February 14**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 53 samples taken in and around ground zero on February 6 and February 7. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,880, with 16 samples above the standard (11 of these were collected prior to September 30, the other five were collected on October 9, November 27, December 27, January 14 and February 5).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Staten Island Landfill:**

**Air (Asbestos)** - Thirty-eight air samples collected on February 6 and February 7 were analyzed for asbestos. Samples taken at one of the Wash Tents (Location W-11), showed 110.2 structures per square millimeter on February 6, and 170.6 structures per square millimeter on February 7, both of which exceed the AHERA school re-entry standard. In addition, a sample taken on February 7 at the Mess Tent (Location T-15) was just above OSHA's permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter. All other samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 8, 9 and 11 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from February 2 through February 8 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from February 2 through February 8 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 12 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 12 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

A sample taken at Austin Tobin Plaza on February 12 exceeded the OSHA PEL for both benzene and 1,3-butadiene. Note that this sample was collected in the vicinity of a burning acetylene cylinder.

All samples taken on February 12 at EPA's Wash Tent (West & Murray Streets), the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, February 13, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 6, 0001 - 1200 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
1 sample (Location J) was not collected due to equipment malfunctions.
2 locations (Location U and U-duplicate) were not sampled due to restricted access to the area.
1 sample (Location M1) was not collected.

NYC / ER (Feb 6, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations A and F) were not collected due to equipment malfunctions.
Note: Location T is no longer being monitored.

NYC / ER (Feb 7, 0001 - 1200 hrs)

All 9 samples analyzed were below the TEM AHERA standard.
7 samples (Locations J, J-duplicate, F, A, B, E, and W) were not collected due to equipment malfunctions.
1 sample (Location S) was not submitted due to tampered equipment.
1 location (Location U) was not sampled due to restricted access to the area.

NYC / ER (Feb 7, 1200 - 2359 hrs)

All 13 samples analyzed were below the TEM AHERA standard.
4 samples (Locations B, S, E-duplicate, and K) were not collected due to equipment malfunctions.
1 sample (Location U) was not submitted due to tampered equipment.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 6, 0743 - 2200 hrs)

1 of 19 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location W-11 (110.24 S/mm$^2$).
Note: Low sample volume recorded.

Fresh Kills (Feb 7, 0743 - 2200 hrs)

1 of 19 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location W-11 (170.6 S/mm$^2$).
Note: Elevated PCM readings (just above OSHA PEL of 0.1 f/cc) at Location T-15.
Note: Low sample volume recorded.

Fresh Kills (Feb 8) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Feb 9) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Feb 11) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 2) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***5.20 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***7.58 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***10.14 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 2) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.12 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 3) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.41 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.45 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***9.07 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 3) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***14.90 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 4) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.77 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***13.24 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***14.24 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 4) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***33.37 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 5) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.67 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.25 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***8.77 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 5) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***31.64 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 6) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***14.76 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.26 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***15.01 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 6) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***31.66 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 7) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***20.79 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***22.75 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***23.58 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 7) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***35.66 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 8) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.18 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***14.03 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***14.60 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 8) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***32.46 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 12) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 27.91 ug/m³ with a maximum reading of 152.95 ug/m³.
Station N had an average 13.38 ug/m³ with a maximum reading of 78.39 ug/m³.
Station R had an average 16.00 ug/m³ with a maximum reading of 71.03 ug/m³.

NYC / ER (Feb 12) - Volatile Organics (Mobile Laboratory)

Benzene exceeded OSHA TWA PEL (1 ppm) at one location (Austin Tobin Plaza) from a plume at the surface of the debris area.
All 3 of the other samples (Wash Tent, North Tower, South Tower) did not note any benzene above the detection limit (20 ppbv).
1,3-butadiene exceeded OSHA TWA PEL (1 ppm) at one location (Austin Tobin Plaza) from a plume at the surface of the debris area.
All 3 of the other samples (Wash Tent, North Tower, South Tower) did not note any 1,3-butadiene above the detection limit (20 ppbv).
VOCs were not identified above the detection limit at the North Tower and Washing Tent at breathing level.
Note: The Austin Tobin plume sample was collected in the vicinity of a burning acetylene cylinder.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/08/02**
**Sampling Date and Time: 2/6/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/06/02 | TTW-00258 | L | 720 | Air | <7.0 | <0.004 | ***1 | 0 | 8 | 0.0043 |
| 02/06/02 | TTW-00259 | N | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00260 | Q | 560 | Air | <7.0 | <0.005 | ***1 | 0 | 8 | 0.0065 |
| 02/06/02 | TTW-00261 | F | 720 | Air | 7.64 | 0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00262 | A | 694 | Air | 10.19 | 0.006 | 0 | 0 | <8.00 | <0.0044 |
| 02/06/02 | TTW-00263 | B | 662 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 02/06/02 | TTW-00264 | C | 720 | Air | 8.28 | 0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00265 | D | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00266 | K | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00267 | T | 720 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 02/06/02 | TTW-00268 | V | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |
| 02/06/02 | TTW-00269 | S | 720 | Air | <7.0 | <0.004 | ***1 | 0 | 8.89 | 0.0048 |
| 02/06/02 | TTW-00270 | S-Dup | 720 | Air | <7.0 | <0.004 | ***1 | 0 | 8.89 | 0.0048 |
| 02/06/02 | TTW-00271 | E | 672 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0046 |
| 02/06/02 | TTW-00272 | W | 720 | Air | <7.0 | <0.004 | ***3 | 0 | 24 | 0.0128 |
| 02/06/02 | TTW-00273 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/06/02 | TTW-00274 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No sample taken for Location J - pump fault - not able to read sample*
*No sample taken for Location U and U-Dup -access denied to sample location - Presidential arrival*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/08/02**
**Sampling Date and Time:** **2/6/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/06/02 | TTW-00278 | L | 1118 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00279 | M1 | 1226 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/06/02 | TTW-00280 | M1-Dup | 1056 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/06/02 | TTW-00281 | N | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/06/02 | TTW-00282 | J | 1052 | Air | 7.64 | 0.003 | *****1 | 0 | 13.33 | 0.0049 |
| 02/06/02 | TTW-00283 | Q | 1018 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 02/06/02 | TTW-00284 | A-Dup | 1160 | Air | 7.01 | 0.002 | *****1 | 0 | 13.33 | 0.0044 |
| | | | | | | | 0 | ******1 | 13.33 | 0.0044 |
| | | | | | | | ***3 | | 40 | 0.0133 |
| | | | | | | | *Total* | | *66.67* | *0.0221* |
| 02/06/02 | TTW-00285 | B | 1074 | Air | 14.01 | 0.005 | ***1 | 0 | 13.33 | 0.0048 |
| 02/06/02 | TTW-00286 | C | 1190 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0043 |
| 02/06/02 | TTW-00287 | D | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00288 | K | 984 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/06/02 | TTW-00289 | U | 1128 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00290 | V | 1118 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00291 | S | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00292 | E | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/06/02 | TTW-00293 | W | 1150 | Air | 16.56 | 0.005 | 0 | 0 | <13.33 | <0.0045 |

*Samples for Location F and A were not taken due to pump fault*
*Note that samples TTW-00275, 276, and 277 were not included in this chain of custody due to destroyed labels*

**Sampling Locations:**
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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
******Amosite

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/08/02**
**Sampling Date and Time: 2/7/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 02/07/02 | FB020702 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/07/02 | TB020702 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/07/02 | TTW-00294 | L | 1120 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/07/02 | TTW-00295 | M1 | 978 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/07/02 | TTW-00296 | N | 1008 | Air | <7.0 | <0.003 | 0 | ***1 | 11.43 | 0.0044 |
| 02/07/02 | TTW-00297 | Q | 990 | Air | <7.0 | <0.003 | ***3 | 0 | 34.29 | 0.0133 |
| 02/07/02 | TTW-00298 | C | 888 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0043 |
| 02/07/02 | TTW-00299 | D | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/07/02 | TTW-00300 | D-Dup | 1090 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/07/02 | TTW-00301 | K | 1024 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/07/02 | TTW-00302 | V | 1102 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |

*Samples for Locations J, J-Dup, F, A, B, E and W were not submitted due to programming error of pumps.*
*No sample taken for Location U due to Presidential arrival, too close to presidential landing*
*A sample for Location S was not submitted due to the pump and cassette were tampered with before Tetra Tech Arrival.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C1: SW corner of Broadway & Liberty St.
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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
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H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on free next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/10/02**

**Sampling Date and Time:** **2/7/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/07/02 | TTW-00303 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/07/02 | TTW-00304 | M1 | 1244 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/07/02 | TTW-00305 | N | 1218 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/07/02 | TTW-00306 | N-Dup | 1218 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/07/02 | TTW-00307 | J | 1086 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/07/02 | TTW-00308 | Q | 1240 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/07/02 | TTW-00309 | F | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/07/02 | TTW-00310 | A | 990 | Air | 7.01 | 0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/07/02 | TTW-00311 | C | 1254 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/07/02 | TTW-00312 | D | 1166 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 02/07/02 | TTW-00313 | V | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/07/02 | TTW-00314 | E | 1102 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/07/02 | TTW-00315 | W | 1268 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0049 |

*No samples taken for Locations B, S, and E-Dup due to programming error of pumps*
*No sample taken for Location K, due to low battery*
*No sample for Location U, due to pump being turned off and tampered with.*

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
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C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/6/02 0743 to 2200**

**Data Validation Date: 02/08/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/06/02 | LF02654 | P-1 | 1260.00 | Air | 8.92 | 0.003 | 0 | 0 | <15.75 | <0.0048 |
| 02/06/02 | LF02655 | P-2 | 799.50 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0047 |
| 02/06/02 | LF02656 | P-3 | 1240.70 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/06/02 | LF02657 | P-4 | 1200.50 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0042 |
| 02/06/02 | LF02658 | P-5 | 1202.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/06/02 | LF02659 | P-6 | 1029.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/06/02 | LF02660 | P-7 | 1365.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/06/02 | LF02661 | P-8 | 1237.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/06/02 | LF02662 | W-11 | 1225.00 | Air | 21.66 | 0.007 | ***5 | ***2 | 110.24 | 0.0346 |
| 02/06/02 | LF02663 | W-12A | 677.25 | Air | 14.01 | 0.008 | ***5 | 0 | 43.74 | 0.0249 |
| 02/06/02 | LF02664 | W-12B | 1139.25 | Air | 10.19 | 0.003 | ***3 | 0 | 39.37 | 0.0133 |
| 02/06/02 | LF02665 | B-13 | 1260.00 | Air | 12.74 | 0.004 | ***1 | 0 | 15.75 | 0.0048 |
| 02/06/02 | LF02666 | B-14 | 967.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 02/06/02 | LF02667 | T-15 | 1260.00 | Air | 7.64 | 0.002 | 0 | ***1 | 15.75 | 0.0048 |
| 02/06/02 | LF02668 | T-16 | 1260.00 | Air | 8.92 | 0.003 | ***3 | 0 | 47.24 | 0.0144 |
| 02/06/02 | LF02669 | O-17 | 939.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/06/02 | LF02670 | O-18 | 105.00 | Air | <7.0 | <0.026 | 0 | 0 | <7.87 | <0.0289 |
| 02/06/02 | LF02671 | O-19 | 908.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 02/06/02 | LF02672 | MPHS-20 | 607.25 | Air | <7.0 | <0.004 | ***1 | 0 | 7.87 | 0.0050 |
| 02/06/02 | LF02673 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/06/02 | LF02674 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/7/02 0743 to 2200**

**Data Validation Date: 02/11/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/07/02 | LF02675 | P-1 | 1359.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/07/02 | LF02676 | P-2 | 1281.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/07/02 | LF02677 | P-3 | 1277.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/07/02 | LF02678 | P-4 | 1226.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/07/02 | LF02679 | P-5 | 1320.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/07/02 | LF02680 | P-6 | 1047.55 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/07/02 | LF02681 | P-7 | 1291.50 | Air | <7.0 | <0.002 | 0 | 0 | <7.87 | <0.0023 |
| 02/07/02 | LF02682 | P-8 | 1176.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/07/02 | LF02683 | W-11 | 1146.60 | Air | NA (1) | NA (1) | ***13 | 0 | 170.6 | 0.0573 |
| 02/07/02 | LF02684 | W-12A | 320.25 | Air | 14.01 | 0.017 | ***1 | ***4 | 39.37 | 0.0473 |
| 02/07/02 | LF02685 | W-12B | 1043.00 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/07/02 | LF02686 | B-13 | 1197.00 | Air | 10.19 | 0.003 | 0 | 0 | <13.12 | <0.0042 |
| 02/07/02 | LF02687 | B-14 | 1054.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/07/02 | LF02688 | T-15 | 1260.00 | Air | 343.95 | 0.105 | ***2 | 0 | 31.50 | 0.0096 |
| 02/07/02 | LF02689 | T-16 | 1260.00 | Air | 26.75 | 0.008 | 0 | ***1 | 15.75 | 0.0048 |
| 02/07/02 | LF02690 | O-17 | 1302.75 | Air | 8.92 | 0.003 | 0 | 0 | <15.75 | <0.0047 |
| 02/07/02 | LF02691 | O-18 | 135.00 | Air | <7.0 | <0.020 | 0 | 0 | <15.75 | <0.0449 |
| 02/07/02 | LF02692 | O-19 | 1248.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/07/02 | LF02693 | MPHS-20 | 532.00 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0057 |
| 02/07/02 | LF02694 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/07/02 | LF02695 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 8, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D076 | 2 | 1012 | 08:26 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.3 | 344.0 |
| 3 | -74.198685 | 40.570054 | D079 | 4 | 1011 | 08:25 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 33.4 | 0.6 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D075 | 2 | 1009 | 08:25 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.7 | 625.6 |
| 6 | -74.207406 | 40.563818 | D078 | 2 | 507 | 04:14 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 38.9 | 616.9 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 9 | 676 | 05:38 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 32.6 | 261.2 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 9, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 3 | 1022 | 08:31 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.5 | 166.3 |
| 3 | -74.198685 | 40.570054 | D078 | 2 | 563 | 04:41 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 21.6 | 126.2 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 2 | 1022 | 08:31 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.7 | 367.3 |
| 6 | -74.207406 | 40.563818 | D079 | 5 | 1025 | 08:33 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 21.1 | 162.5 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 9 | 1026 | 08:33 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 22.0 | 123.9 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 11, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 4 | 965 | 08:03 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 10.0 | 383.8 |
| 3 | -74.198685 | 40.570054 | D078 | 2 | 532 | 04:26 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.2 | 745.4 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 3 | 964 | 08:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 6.8 | 101.4 |
| 6 | -74.207406 | 40.563818 | D079 | 6 | 968 | 08:04 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 3.6 | 172.2 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 10 | 969 | 08:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 7.4 | 59.9 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 12, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2 | 2.0 |
| **Start Time** | 0637 | 0639 | 0634 |
| **Stop Time** | 1450 | 1456 | 1447 |
| **Run Time (minutes)** | 493 | 497 | 493 |
| **Maximum Concentration ($ug/m^3$)** | 152.95 | 78.39 | 71.03 |
| **Average Concentration ($ug/m^3$)** | 27.91 | 13.38 | 16.00 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/12/02**

| File Name | NYC1031 | NYC1032 | NYC1033 | NYC1036 | NYC1040 | NYC1038 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | Plume | | Plume |
| Sample Number | | | A07457 | A07458 | A07460 | A07459 |
| Sample Height | | | Breathing Level | Ground Level | Breathing Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 10 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 500 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | 3300 | RL | 100 |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | 180 |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | 190 |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | 1400 | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | 160 |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | 120000 | RL | 66 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | 160 |
| MTBE | RL | RL | RL | RL | RL | 1400 |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | 87 |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | 670 | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | 120 |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | 7000 | RL | RL |
| Heptane | RL | RL | RL | RL | RL | 21 |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | 1400 | RL | 54 |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | 82 |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | 560 | RL | 36 |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | 660 | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | 720 | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, February 14, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:30 p.m. on February 14**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 39 samples taken in and around ground zero on February 8 and February 9. EPA also sampled for asbestos at two additional lower Manhattan locations on February 5 and February 6. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities. This brings the total number of air samples collected and analyzed for lower Manhattan to 5,923, with 16 samples above the standard (11 of these were collected prior to September 30; the other five were collected on October 9, November 27, December 27, January 14 and February 5).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) on February 5 and February 6. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Nineteen air samples collected on February 8 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February

12 at the Staten Island Landfill. There were no significant readings.

**Metals** - A total of 5 samples were collected on January 16. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 13 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Dioxin** - A total of 9 samples were collected on January 31 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**PCBs** - A total of 29 samples were collected on January 25, 29 and 31 at various locations in Lower Manhattan. PCBs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 13 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 13 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the Port Authority Station, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, February 14, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 8, 0001 - 1200 hrs)

All 11 samples analyzed were below the TEM AHERA standard.
7 samples (Locations L, L-duplicate, F, A, S, E, and W) were not collected due to equipment malfunctions.

NYC / ER (Feb 8, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
3 samples (Locations E, Q, and D-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Feb 9, 0001 - 1200 hrs)

All 12 samples analyzed were below the TEM AHERA standard.
6 samples (Locations L, M1, A, A-duplicate, C-duplicate and U) were not collected due to equipment malfunctions.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 8, 0743 - 2200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills (Jan 16) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Fresh Kills (Feb 12) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Jan 31) - Dioxin

All 9 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
1 sample (Location C) was not collected due to damaged equipment.
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 25) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 29) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 31) - PCBs

All 9 samples analyzed did not detect any PCBs.
1 sample (Location C) was not collected due to damaged equipment.

NYC / ER (Feb 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 13) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 12.01 $ug/m^3$ with a maximum reading of 98.91 $ug/m^3$.
Station N had an average 8.56 $ug/m^3$ with a maximum reading of 52.58 $ug/m^3$.
Station R had an average 10.42 $ug/m^3$ with a maximum reading of 66.75 $ug/m^3$.

NYC / ER (Feb 13) - Volatile Organics (Mobile Laboratory)

Aside from one compound identified above the detection limit (20 ppbv) at the Port Authority Station [B-4 level near F-11 stairwell], all other volatile organic compounds were not detected in any of the other five samples collected (Washing Tent, Austin Tobin Plaza [B-5 level], North Tower, South Tower [steam plume north side of Tully ramp], and Port Authority Station [B-4 level]).
Data is not attached as an electronic file.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, February 14, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 8, 0001 - 1200 hrs)

All 11 samples analyzed were below the TEM AHERA standard.
7 samples (Locations L, L-duplicate, F, A, S, E, and W) were not collected due to equipment malfunctions.

NYC / ER (Feb 8, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
3 samples (Locations E, Q, and D-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Feb 9, 0001 - 1200 hrs)

All 12 samples analyzed were below the TEM AHERA standard.
6 samples (Locations L, M1, A, A-duplicate, C-duplicate and U) were not collected due to equipment malfunctions.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 8, 0743 - 2200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills (Jan 16) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Fresh Kills (Feb 12) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Jan 31) - Dioxin

All 9 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
1 sample (Location C) was not collected due to damaged equipment.
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 25) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 29) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Jan 31) - PCBs

All 9 samples analyzed did not detect any PCBs.
1 sample (Location C) was not collected due to damaged equipment.

NYC / ER (Feb 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 13) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 12.01 $ug/m^3$ with a maximum reading of 98.91 $ug/m^3$.
Station N had an average 8.56 $ug/m^3$ with a maximum reading of 52.58 $ug/m^3$.
Station R had an average 10.42 $ug/m^3$ with a maximum reading of 66.75 $ug/m^3$.

NYC / ER (Feb 13) - Volatile Organics (Mobile Laboratory)

Aside from one compound identified above the detection limit (20 ppbv) at the Port Authority Station [B-4 level near F-11 stairwell], all other volatile organic compounds were not detected in any of the other five samples collected (Washing Tent, Austin Tobin Plaza [B-5 level], North Tower, South Tower [steam plume north side of Tully ramp], and Port Authority Station [B-4 level]).
Data is not attached as an electronic file.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/10/02**
**Sampling Date and Time:** **2/8/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/08/02 | FB020802 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/08/02 | TB0207028 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/08/02 | TTW-00316 | N | 1114 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/08/02 | TTW-00317 | J | 1192 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/08/02 | TTW-00318 | Q | 1378 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0037 |
| 02/08/02 | TTW-00319 | Q-Dup | 1040 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/08/02 | TTW-00320 | B | 904 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0049 |
| 02/08/02 | TTW-00321 | C | 1136 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/08/02 | TTW-00322 | D | 1266 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/08/02 | TTW-00323 | K | 1194 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/08/02 | TTW-00324 | K-Dup | 1202 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/08/02 | TTW-00325 | U | 1102 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/08/02 | TTW-00326 | V | 1118 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

*Samples for Locations L, L-Dup, F, A, S, E, and W were not submitted due to flow rate increasing between 2.1 and 2.5 liters/minute, the pump faulted and shut off. No sample could be taken*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/10/02**
**Sampling Date and Time: 2/8/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/08/02 | TTW-00327 | L | 1056 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/08/02 | TTW-00328 | L-Dup | 1138 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/08/02 | TTW-00329 | M1 | 1119.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/08/02 | TTW-00330 | N | 1328 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0039 |
| 02/08/02 | TTW-00331 | J | 980 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/08/02 | TTW-00332 | F | 1368 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0045 |
| 02/08/02 | TTW-00333 | A | 1282 | Air | 8.92 | 0.003 | 0 | 0 | <16.00 | <0.0046 |
| 02/08/02 | TTW-00334 | B | 1040 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/08/02 | TTW-00335 | C | 530 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0058 |
| 02/08/02 | TTW-00336 | D | 1074 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/08/02 | TTW-00337 | K | 1054 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/08/02 | TTW-00338 | U | 502 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0061 |
| 02/08/02 | TTW-00339 | U-Dup | 1050 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0061 |
| 02/08/02 | TTW-00340 | V | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/08/02 | TTW-00341 | S | 1160 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/08/02 | TTW-00342 | W | 622 | Air | 9.55 | 0.006 | 0 | 0 | <8.00 | <0.0050 |

*Samples were not taken from Locations Q, and D- Dup due to programming error*
*Samples were not taken from Location E, due to pump fault.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/11/02**

**Sampling Date and Time:** **2/9/02 0001 to 1200**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/09/02 | FB0020902 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/09/02 | TB0209028 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/09/02 | TTW-00343 | N | 1144 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/09/02 | TTW-00344 | J | 1020.3 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/09/02 | TTW-00345 | Q | 1100 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/09/02 | TTW-00346 | F | 961.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/09/02 | TTW-00347 | B | 1092 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/09/02 | TTW-00348 | C | 1092 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/09/02 | TTW-00349 | D | 1240 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/09/02 | TTW-00350 | K | 1012 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/09/02 | TTW-00351 | V | 1314 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/09/02 | TTW-00352 | S | 1070 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/09/02 | TTW-00353 | E | 1024 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/09/02 | TTW-00354 | W | 512 | Air | <7.0 | <0.003 | 0 | 0 | <8.00 | <0.0060 |

*Samples for Locations L, , M1, A, A-Dup, C-Dup and U were not taken due to pump fault*
*The flow rate was approximately 2.2 - 2.5 L/min, creating too much pressure, cause pump to malfunction and turn off.*

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**

* Some Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 2/8/02 0743 to 2200

**Data Validation Date: 02/11/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/08/02 | LF02696 | P-1 | 1398.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/08/02 | LF02697 | P-2 | 1312.35 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0046 |
| 02/08/02 | LF02698 | P-3 | 1281.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/08/02 | LF02699 | P-4 | 1386.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/08/02 | LF02700 | P-5 | 1351.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/08/02 | LF02701 | P-6 | 1047.55 | Air | <7.0 | <0.003 | 0 | 0 | <15.75 | <0.0058 |
| 02/08/02 | LF02702 | P-7 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/08/02 | LF02703 | P-8 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/08/02 | LF02704 | W-11 | 1370.00 | Air | 39.49 | 0.011 | 0 | 0 | <15.75 | <0.0044 |
| 02/08/02 | LF02705 | W-12A | 956.25 | Air | 25.48 | 0.010 | ***1 | 0 | 11.25 | 0.0045 |
| 02/08/02 | LF02706 | W-12B | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/08/02 | LF02707 | B-13 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/08/02 | LF02708 | B-14 | 1302.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/08/02 | LF02709 | T-15 | 1440.00 | Air | 52.23 | 0.014 | 0 | 0 | <15.75 | <0.0042 |
| 02/08/02 | LF02710 | T-16 | 1440.00 | Air | 8.92 | 0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/08/02 | LF02711 | O-17 | 1364.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/08/02 | LF02712 | O-18 | 108.00 | Air | <7.0 | <0.025 | 0 | 0 | <7.87 | <0.0281 |
| 02/08/02 | LF02713 | O-19 | 1298.70 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/08/02 | LF02714 | MPHS-20 | 1426.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/08/02 | LF02715 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/08/02 | LF02716 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 2/5/02 1200 to 2400

**Data Validation Date: 02/08/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/05/02 | 7093-18-0131 | Park Row | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/05/02 | 7093-19-0131 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/05/02 | 7093-15-0129 | I.S. 143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/05/02 | 7094-09-0119 | P.S. 154 (Bronx) | 1340 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/05/02 | 7096-12-0125 | P.S. 199 (Queens) | 1144 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/05/02 | 7095-98-0125 | P.S. 274(Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/05/02 | 7097-18-0122 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable



**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/10/02**
**Sampling Date and Time:** **2/6/02** **1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/06/02 | 7093-18-0132 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/06/02 | 7093-19-0132 | Chambers Street | 1200 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/06/02 | 7093-15-0130 | I.S. 143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/06/02 | 7094-09-0120 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/06/02 | 7096-12-0126 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/06/02 | 7095-98-0126 | P.S. 274(Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/06/02 | 7097-18-0123 | P.S. 44 (S.I) | 1148 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0069 | | WTC-0070 | | WTC-0064 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4820 | |
| Date Collected | | - | | - | | - | | 01/16/02 | | 01/16/02 | | 01/16/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 3.7 | 2.5 | 3.6 | 2.5 | 3.6 | 2.5 | U | 2.5 | U | 2.5 | U | 0.52 |
| Chromium | ICAP | 0.77 | 0.13 | 0.76 | 0.13 | 0.88 | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Iron | ICAP | U | 0.63 | U | 0.63 | 0.67 | 0.63 | U | 0.63 | U | 0.63 | 0.19 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0065 | | WTC-0066 | | WTC-0067 | | WTC-0068 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 3610 | | 3670 | | 5240 | | 4980 | |
| Date Collected | | 01/16/02 | | 01/16/02 | | 01/16/02 | | 01/16/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.35 | U | 0.34 | 0.35 | 0.24 | U | 0.25 |
| Antimony | AA-Fur | U | 0.014 | U | 0.014 | U | 0.0095 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.014 | U | 0.014 | U | 0.0095 | U | 0.01 |
| Barium | ICAP | U | 0.035 | U | 0.034 | 0.048 | 0.024 | U | 0.025 |
| Beryllium | ICAP | U | 0.014 | U | 0.014 | U | 0.0095 | U | 0.01 |
| Cadmium | ICAP | U | 0.035 | U | 0.034 | U | 0.024 | U | 0.025 |
| Calcium | ICAP | 2.2 | 0.69 | 1.9 | 0.68 | 1.7 | 0.48 | 0.53 | 0.5 |
| Chromium | ICAP | 0.071 | 0.035 | U | 0.034 | U | 0.024 | U | 0.025 |
| Cobalt | ICAP | U | 0.069 | U | 0.068 | U | 0.048 | U | 0.05 |
| Copper | ICAP | U | 0.069 | U | 0.068 | U | 0.048 | U | 0.05 |
| Iron | ICAP | 0.38 | 0.17 | 0.61 | 0.17 | 1.0 | 0.12 | 0.37 | 0.13 |
| Lead | AA-Fur | 0.031 | 0.014 | 0.021 | 0.014 | 0.021 | 0.0095 | U | 0.01 |
| Magnesium | ICAP | U | 3.5 | U | 3.4 | U | 2.4 | U | 2.5 |
| Manganese | ICAP | U | 0.035 | U | 0.034 | U | 0.024 | U | 0.025 |
| Nickel | ICAP | U | 0.069 | U | 0.068 | U | 0.048 | U | 0.05 |
| Potassium | ICAP | U | 14 | U | 14 | U | 9.5 | U | 10 |
| Selenium | AA-Fur | U | 0.014 | U | 0.014 | U | 0.0095 | U | 0.01 |
| Silver | ICAP | U | 0.035 | U | 0.034 | U | 0.024 | U | 0.025 |
| Sodium | ICAP | U | 3.5 | U | 3.4 | U | 2.4 | U | 2.5 |
| Thallium | AA-Fur | U | 0.014 | U | 0.014 | U | 0.0095 | U | 0.01 |
| Vanadium | ICAP | U | 0.069 | U | 0.068 | U | 0.048 | U | 0.05 |
| Zinc | ICAP | U | 0.069 | 0.072 | 0.068 | 0.063 | 0.048 | U | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 12, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | 962 | 08:01 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.1 | 432.2 |
| 3 | -74.198685 | 40.570054 | D078 | 1 | 28 | 00:14 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 23.1 | 190.5 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 961 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 10.8 | 1199.4 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 11.1 | 2165.4 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | 797 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 26.5 | 6907.9 |

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/31/02**

| Sample No. | WG-7082-1P | | 06601 | | 06602 | | 06603 | | 06604 | | 06606 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | D | |
| Sample Volume (L) | 0 | | 6390 | | 3217.5 | | 3368.75 | | 3840 | | 6105 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of MoCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of DiCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of TrCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of TeCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of PeCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of HxCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of HpCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of OcCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Sum of NoCBs | U | 10.0 | U | 1.56 | U | 3.11 | U | 2.97 | U | 2.60 | U | 1.64 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/31/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERTC 2/12/02

1-31-02PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/31/02**

| Sample No. | 06607 | | 06608 | | 06609 | | 06610 | | 06611 | | 06612 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | S | | P | | E | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6882.75 | | 3257.25 | | 3361.5 | | 4759.5 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.45 | U | 3.07 | U | 2.97 | U | 2.10 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/31/02-Dioxin

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/29/02**

| Sample No. | WG-7078-1P | | 06351 | | 06352 | | 06353 | | 06354 | | 06355 | | 06356 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | C | | D | |
| Sample Volume (L) | 0 | | 6045 | | 7096.5 | | 7500 | | 7308 | | 5850 | | 5945 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of MoCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of DiCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of TrCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of TeCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of PeCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of HxCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of HpCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of OcCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Sum of NoCBs | U | 10.0 | U | 1.65 | U | 1.41 | U | 1.33 | U | 1.37 | U | 1.71 | U | 1.68 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/29/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/12/02

1-29-02PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/29/02**

| Sample No. | 06357 | | 06358 | | 06359 | | 06360 | | 06361 | | 06362 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | S | | P | | E | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7365 | | 6322 | | 5421 | | 6177 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.36 | U | 1.58 | U | 1.84 | U | 1.62 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/29/02-Dioxin

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/31/02**

| Sample No. | WG7082-1 | | | 06601 | | | 06602 | | | 06603 | | | 06604 | | | 06606 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | B-Church & Dey St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 6390 | | | 3217.5 | | | 3368.75 | | | 3840 | | | 6105 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0031 | U | | 0.0062 | U | | 0.0059 | U | | 0.0052 | U | | 0.0033 |
| 12376-PeCDD | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123478-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123678-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123789-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 1234678-HpCDD | U | | 0.10 | 0.0012J | | 0.016 | 0.0020 J | | 0.031 | U | | 0.030 | 0.0015 J | | 0.026 | U | 0.0010 | 0.016 |
| OCDD | U | | 0.20 | U | | 0.031 | U | | 0.062 | U | 0.0062 | 0.059 | U | | 0.052 | U | | 0.033 |
| 2378-TCDF | U | | 0.020 | U | | 0.0031 | U | | 0.0062 | U | | 0.0059 | U | | 0.0052 | U | | 0.0033 |
| 12378-PeCDF | U | 0.0033 | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 23478-PeCDF | 0.0030J | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123478-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 234678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 123789-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 1234678-HpCDF | U | | 0.10 | U | 0.0004 | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.016 | U | | 0.031 | U | | 0.030 | U | | 0.026 | U | | 0.016 |
| OCDF | U | | 0.20 | U | | 0.031 | U | | 0.062 | U | | 0.059 | U | | 0.052 | U | | 0.033 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | 0.0012 | | | 0.0020 | | | U | | | 0.0015 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0030 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0015 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0347 | | | 0.0014 | | | 0.0026 | | | 0.0025 | | | 0.0022 | | | 0.0015 | | |

COC# 01/31/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

ERTC 2/12/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

1-31-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 1/31/02**

| Sample No. | 06607 | | | 06608 | | | 06609 | | | 06610 | | | 06611 | | | 06612 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | P-Albany St. & South End | | | E-Liberty St. & South End Ave. | | | E-Liberty St. & South End Ave. | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6882.75 | | | 3257.25 | | | 3361.5 | | | 4759.5 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0029 | U | | 0.0061 | U | | 0.0060 | U | | 0.0042 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | 0.0009 | 0.015 | U | 0.0019 | 0.031 | U | | 0.030 | U | 0.0012 | 0.021 | U | | 0.10 | U | 0.0143 | 0.10 |
| OCDD | U | | 0.029 | U | | 0.061 | U | | 0.060 | U | 0.0027 | 0.042 | U | | 0.20 | 0.0296 J | | 0.20 |
| 2378-TCDF | U | | 0.0029 | U | | 0.0061 | U | | 0.0060 | U | | 0.0042 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.015 | 0.0006 J | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.015 | U | | 0.031 | U | | 0.030 | U | | 0.021 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.029 | U | | 0.061 | U | | 0.060 | U | | 0.042 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | 0.0006 | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0015 | | | 0.0032 | | | 0.0023 | | | 0.0021 | | | 0.0411 | | | 0.0421 | | |

COC# 01/31/02 dioxin

1-31-02dioair.xls

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/25/02**

| Sample No. | WG-7072-1P | | 06301 | | 06302 | | 06303 | | 06304 | | 06305 | | 06306 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | 3A | | B | | C | |
| Sample Volume (L) | 0 | | 6931 | | 6479 | | 5413.75 | | 6448 | | 6375 | | 6206 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of MoCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of DiCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of TrCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of TeCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of PeCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of HxCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of HpCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of OcCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Sum of NoCBs | U | 10.0 | U | 1.44 | U | 1.54 | U | 1.85 | U | 1.55 | U | 1.57 | U | 1.61 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/25/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/12/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 1/25/02**

| Sample No. | 06307 | | 06308 | | 06309 | | 06310 | | 06311 | | 06312 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | P | | S | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6380 | | 6293 | | 6684.5 | | 6256 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.57 | U | 1.59 | U | 1.50 | U | 1.60 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 01/25/02-Dioxin

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 13, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2 | 2.0 |
| Start Time | 0634 | 0637 | 0631 |
| Stop Time | 1435 | 1439 | 1431 |
| Run Time (minutes) | 481 | 482 | 480 |
| Maximum Concentration ($ug/m^3$) | 98.91 | 52.58 | 66.75 |
| Average Concentration ($ug/m^3$) | 12.01 | 8.56 | 10.42 |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Friday, February 15, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:15 p.m. on February 15**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 102 samples taken in and around ground zero from February 9 through February 12. EPA also sampled for asbestos at two additional lower Manhattan locations from February 7 through February 9. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

One sample, taken on February 11 at Location B (Church & Dey Streets) showed 213 structures per square millimeter. (Note that a "field duplicate" collected at the same time and location did not detect any structures.) This brings the total number of air samples collected and analyzed for lower Manhattan to 6,031, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154: 333 East 135th St, Bronx, P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 44 (80 Maple Parkway, Staten Island) and P.S. 199 (3290 48th St., Queens) from February 7 through February 9. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Fifty-six air samples collected from February 9 through February 11 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 13 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 14 in the following locations: L (north east side of Stuyvesant High School); N (south side of Pier 25); and R (north west side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, February 15, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 9, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 10, 0001 - 1115 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 10, 1200 - 2359 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
3 samples (Locations M1-duplicate, V, and W) were not collected due to equipment malfunctions.

NYC / ER (Feb 11, 0001 - 1117 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations Q and W) were not collected due to equipment malfunctions.

NYC / ER (Feb 11, 1200 - 2359 hrs)

1 of 17 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location B (213.33 S/mm$^2$).
A field duplicate collected at Location B did not detect any structures (<13.33 S/mm$^2$).
1 sample (Location Q) was not collected due to an equipment malfunction.

NYC / ER (Feb 12, 0001 - 1133 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 9, 0751 - 2110 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume recorded.

Fresh Kills (Feb 10, 0743 - 1943 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 11, 0755 - 2138 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-14) was not analyzed due to overloading of particulates.
1 sample (Location P-4) was not analyzed due to an equipment malfunction.

Fresh Kills (Feb 13) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 7- 9) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 21 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 13) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 31.32 $ug/m^3$ with a maximum reading of 128.35 $ug/m^3$.
Station N had an average 15.38 $ug/m^3$ with a maximum reading of 35.58 $ug/m^3$.
Station R had an average 17.20 $ug/m^3$ with a maximum reading of 105.50 $ug/m^3$.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/12/02**
**Sampling Date and Time: 2/9/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 02/09/02 | TTW-00355 | L | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/09/02 | TTW-00356 | M1 | 486.2 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 02/09/02 | TTW-00357 | N | 906.1 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0049 |
| 02/09/02 | TTW-00358 | J | 423.5 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0073 |
| 02/09/02 | TTW-00359 | J-Dup | 788.4 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0043 |
| 02/09/02 | TTW-00360 | Q | 1043.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/09/02 | TTW-00361 | F | 1233.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/09/02 | TTW-00362 | A | 1093.1 | Air | <7.0 | <0.002 | 0 | 0 | <11.43 | <0.0040 |
| 02/09/02 | TTW-00363 | B | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/09/02 | TTW-00364 | B-Dup | 1087.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/09/02 | TTW-00365 | C | 1164.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/09/02 | TTW-00366 | D | 1110.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/09/02 | TTW-00367 | K | 1101.6 | Air | <7.0 | <0.002 | 0 | 0 | <11.43 | <0.0040 |
| 02/09/02 | TTW-00368 | U | 1011.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/09/02 | TTW-00369 | V | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/09/02 | TTW-00370 | S | 1113 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/09/02 | TTW-00371 | E | 793.9 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0043 |
| 02/09/02 | TTW-00372 | W | 1203.6 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany In median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-09-02-pmrev2.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/12/02**
**Sampling Date and Time: 2/10/02 0001 to 1115**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/10/02 | FB021002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/10/02 | TB021002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/10/02 | TTW-00373 | L | 1048.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/10/02 | TTW-00374 | M1 | 1062.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/10/02 | TTW-00375 | N | 847 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0040 |
| 02/10/02 | TTW-00376 | J | 1120 | Air | <7.0 | <0.002 | ***2 | 0 | 26.67 | 0.0092 |
| 02/10/02 | TTW-00377 | Q | 1170 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/10/02 | TTW-00378 | F | 1057 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/10/02 | TTW-00379 | F-Dup | 1011.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/10/02 | TTW-00380 | A | 986 | Air | 7.01 | 0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/10/02 | TTW-00381 | B | 1048.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/10/02 | TTW-00382 | C | 1091.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/10/02 | TTW-00383 | D | 1147.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/10/02 | TTW-00384 | K | 777.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0057 |
| 02/10/02 | TTW-00385 | U | 976.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/10/02 | TTW-00386 | V | 1088.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/10/02 | TTW-00387 | S | 1083.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/10/02 | TTW-00388 | S-Dup | 1111.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/10/02 | TTW-00389 | E | 1144.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/10/02 | TTW-00390 | W | 1025.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/13/02**
**Sampling Date and Time:** **2/10/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/10/02 | TTW-00391 | L | 1058.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/10/02 | TTW-00392 | M1 | 502.25 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0061 |
| 02/10/02 | TTW-00393 | N | 1055.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/10/02 | TTW-00394 | J | 1018.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/10/02 | TTW-00395 | Q | 1098 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 02/10/02 | TTW-00396 | Q-Dup | 1110 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/10/02 | TTW-00397 | F | 1058.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/10/02 | TTW-00398 | A | 488.25 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0063 |
| 02/10/02 | TTW-00399 | B | 1200.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/10/02 | TTW-00400 | C | 1020 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/10/02 | TTW-00401 | D | 1102.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/10/02 | TTW-00402 | K | 1053.5 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/10/02 | TTW-00403 | U | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/10/02 | TTW-00404 | S | 519.75 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0059 |
| 02/10/02 | TTW-00405 | E | 1090.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |

*No samples were taken for Locations M1-dup, V and W due to pump fail.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/12/02**
**Sampling Date and Time:** **2/12/02 0001 to 1133**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/12/02 | FB021202 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/12/02 | TB021202 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/12/02 | TTW-00439 | L | 1067.5 | Air | <7.0 | <0.003 | ***2 | 0 | 26.67 | 0.0096 |
| 02/12/02 | TTW-00440 | M1 | 948.5 | Air | <7.0 | <0.003 | ***2 | 0 | 22.86 | 0.0093 |
| 02/12/02 | TTW-00441 | N | 1045.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/12/02 | TTW-00442 | J | 1009.75 | Air | <7.0 | <0.003 | ***3 | 0 | 34.29 | 0.0131 |
| 02/12/02 | TTW-00443 | Q | 1247.4 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/12/02 | TTW-00444 | Q-Dup | 1114.2 | Air | <7.0 | <0.002 | ***2 | 0 | 26.67 | 0.0092 |
| 02/12/02 | TTW-00445 | F | 1011.5 | Air | <7.0 | <0.003 | ***2 | 0 | 22.86 | 0.0087 |
| 02/12/02 | TTW-00446 | A | 980 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/12/02 | TTW-00447 | B | 936 | Air | 9.55 | 0.004 | ***2 | 0 | 22.86 | 0.0094 |
| 02/12/02 | TTW-00448 | C | 1209.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/12/02 | TTW-00449 | C-Dup | 1041.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/12/02 | TTW-00450 | D | 1097.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/12/02 | TTW-00451 | K | 541.8 | Air | <7.0 | <0.004 | ***1 | 0 | 6 | 0.0057 |
| 02/12/02 | TTW-00452 | U | 464.4 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0066 |
| 02/12/02 | TTW-00453 | V | 1058.75 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/12/02 | TTW-00454 | S | 1034.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/12/02 | TTW-00455 | E | 1120 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/12/02 | TTW-00456 | W | 1130.4 | Air | 18.47 | 0.006 | 0 | 0 | <13.33 | <0.0045 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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N: South side of Pier 25 (next to volleyball ct)
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R: TAGA Bus Location
S: Rector & South End
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U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/11/02**
**Sampling Date and Time: 2/7/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/07/02 | 7093-18-0133 | Park Row | 1246 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/07/02 | 7093-19-0133 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/07/02 | 7093-15-0131 | I.S. 143 | 1366 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/07/02 | 7094-09-0121 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/07/02 | 7096-12-0127 | P.S. 199 (Queens) | 1430 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/07/02 | 7095-98-0127 | P.S. 274(Brooklyn) | 1356 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/07/02 | 7097-18-0124 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/8/02 1200 to 2400**

**Data Validation Date: 02/12/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/08/02 | 7093-18-0134 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/08/02 | 7093-19-0134 | Chambers Street | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/08/02 | 7093-15-0132 | I.S. 143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/08/02 | 7094-09-0122 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/08/02 | 7096-12-0128 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/08/02 | 7095-98-0128 | P.S. 274(Brooklyn) | 1064 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0046 |
| 02/08/02 | 7097-18-0125 | P.S. 44 (S.I) | 1080 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/13/02**
**Sampling Date and Time: 2/9/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/09/02 | 7093-18-0135 | Park Row | 1142 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/09/02 | 7093-19-0135 | Chambers Street | 1226 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/09/02 | 7093-15-0133 | I.S. 143 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/09/02 | 7094-09-0123 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/09/02 | 7096-12-0129 | P.S. 199 (Queens) | 1276 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/09/02 | 7095-98-0129 | P.S. 274(Brooklyn) | 1312 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/09/02 | 7097-18-0126 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/10/02 0743 to 1943**

**Data Validation Date: 02/13/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/10/02 | LF02738 | P-1 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/10/02 | LF02739 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/10/02 | LF02740 | P-3 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/10/02 | LF02741 | P-4 | 1276.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/10/02 | LF02742 | P-5 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/10/02 | LF02743 | P-6 | 1157.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/10/02 | LF02744 | P-7 | 1398.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/10/02 | LF02745 | P-8 | 1252.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/10/02 | LF02746 | W-11 | 1398.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/10/02 | LF02747 | W-12A | 972.00 | Air | 11.46 | 0.005 | ***1 | ***1 | 22.50 | 0.0089 |
| 02/10/02 | LF02748 | W-12B | 1398.15 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0043 |
| 02/10/02 | LF02749 | B-13 | 1408.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/10/02 | LF02750 | B-14 | 1213.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/10/02 | LF02751 | T-15 | 1404.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0043 |
| 02/10/02 | LF02752 | T-16 | 1440.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0042 |
| 02/10/02 | LF02753 | O-17 | 1438.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/10/02 | LF02754 | O-18 | 1184.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/10/02 | LF02755 | O-19 | 1269.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/10/02 | LF02756 | MPHS-20 | 841.50 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0045 |
| 02/10/02 | LF02757 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/10/02 | LF02758 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-10-02-rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/9/02 0751 to 2110**

**Data Validation Date: 02/12/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/09/02 | LF02717 | P-1 | 1364.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/09/02 | LF02718 | P-2 | 1352.00 | Air | <7.0 | <0.002 | ***1 | 0 | <15.75 | <0.0045 |
| 02/09/02 | LF02719 | P-3 | 1329.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/09/02 | LF02720 | P-4 | 1396.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/09/02 | LF02721 | P-5 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 02/09/02 | LF02722 | P-6 | 1270.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/09/02 | LF02723 | P-7 | 1372.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/09/02 | LF02724 | P-8 | 1358.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/09/02 | LF02725 | W-11 | 1436.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/09/02 | LF02726 | W-12A | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/09/02 | LF02727 | W-12B | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/09/02 | LF02728 | B-13 | 1314.05 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/09/02 | LF02729 | B-14 | 1334.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/09/02 | LF02730 | T-15 | 1440.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/09/02 | LF02731 | T-16 | 1440.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0042 |
| 02/09/02 | LF02732 | O-17 | 1428.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/09/02 | LF02733 | O-18 | 120.00 | Air | <7.0 | <0.002 | 0 | 0 | <7.87 | <0.0253 |
| 02/09/02 | LF02734 | O-19 | 1295.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/09/02 | LF02735 | MPHS-20 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | 0.0042 |
| 02/09/02 | LF02736 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/09/02 | LF02737 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 2/11/02 0755 to 2138

Data Validation Date: 02/14/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/11/02 | LF02759 | P-1 | 1284.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/11/02 | LF02760 | P-2 | 1360.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/11/02 | LF02761 | P-3 | 1164.60 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0043 |
| 02/11/02 | LF02763 | P-5 | 1348.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/11/02 | LF02764 | P-6 | 1146.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/11/02 | LF02765 | P-7 | 1170.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/11/02 | LF02766 | P-8 | 1344.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/11/02 | LF02767 | W-11 | 1402.00 | Air | 15.29 | 0.004 | ***1 | 0 | 15.75 | 0.0043 |
| 02/11/02 | LF02768 | W-12A | 1152.00 | Air | 7.64 | 0.003 | ***3 | 0 | 47.24 | 0.0158 |
| 02/11/02 | LF02769 | W-12B | 1200.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0042 |
| 02/11/02 | LF02770 | B-13 | 1211.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/11/02 | LF02771 | B-14 | 1301.75 | Air | NA (1) | NA(1) | NA(1) | NA(1) | NA(1) | NA(1) |
| 02/11/02 | LF02772 | T-15 | 1440.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0042 |
| 02/11/02 | LF02773 | T-16 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/11/02 | LF02774 | O-17 | 1387.85 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/11/02 | LF02775 | O-18 | 1292.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/11/02 | LF02776 | O-19 | 1254.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/11/02 | LF02777 | MPHS-20 | 1340.70 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/11/02 | LF02778 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/11/02 | LF02779 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

*Sample LF02762 was voided No sample submitted*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-11-02rev.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/12/02**
**Sampling Date and Time: 2/11/02 0001 to 1117**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 02/11/02 | FB021102 | Field Blank | 0 | Air | <7.0 | n/a | NA[3] | NA[2] | NA[2] | NA[2] |
| 02/11/02 | TB021102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/11/02 | TTW-00406 | L | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/11/02 | TTW-00407 | M1 | 406.8 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0076 |
| 02/11/02 | TTW-00408 | N | 392 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0079 |
| 02/11/02 | TTW-00409 | N-Dup | 1008 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/11/02 | TTW-00410 | J | 458.5 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0067 |
| 02/11/02 | TTW-00411 | F | 1200.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/11/02 | TTW-00412 | A | 1044 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/11/02 | TTW-00413 | B | 997.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/11/02 | TTW-00414 | C | 1132.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/11/02 | TTW-00415 | D | 1153.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/11/02 | TTW-00416 | D-Dup | 1018.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/11/02 | TTW-00417 | K | 1025.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/11/02 | TTW-00418 | U | 982.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/11/02 | TTW-00419 | V | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/11/02 | TTW-00420 | S | 1098 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/11/02 | TTW-00421 | E | 1137.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |

*No sample taken for Locations Q and W, due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/14/02**
**Sampling Date and Time:** **2/11/00 1200 to 2359**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/11/00 | TTW-00422 | L | 1149.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 01/00/00 | TTW-00423 | L-Dup | 1132 | Air | 9.55 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/11/00 | TTW-00424 | M1 | 1002.7 | Air | 7.01 | 0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/11/00 | TTW-00425 | N | 582.75 | Air | 7.64 | 0.005 | 0 | 0 | <11.43 | <0.0076 |
| 02/11/00 | TTW-00426 | J | 1095.2 | Air | 8.92 | 0.003 | ***3 | 0 | 24 | 0.0084 |
| 02/11/00 | TTW-00427 | F | 1058.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/11/00 | TTW-00428 | A | 1095.2 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 02/11/00 | TTW-00429 | B | 1095.2 | Air | <7.0 | <0.002 | ***13 | ***3 | 213.33 | 0.0750 |
| 02/11/00 | TTW-00430 | B-Dup | 1065.6 | Air | 10.83 | 0.004 | 0 | 0 | <13.33 | <0.0048 |
| 02/11/00 | TTW-00431 | C | 989.75 | Air | 14.01 | 0.005 | ***1 | ***1 | 22.86 | 0.0089 |
| 02/11/00 | TTW-00432 | D | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/11/00 | TTW-00433 | K | 1017.9 | Air | 8.28 | 0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/11/00 | TTW-00434 | U | 1068.38 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/11/00 | TTW-00435 | V | 876.9 | Air | <7.0 | <0.003 | ***1 | 0 | 10 | 0.0044 |
| 02/11/00 | TTW-00436 | S | 1098 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/11/00 | TTW-00437 | E | 1047.6 | Air | <7.0 | <0.003 | ***1 | 0 | 13.33 | 0.0049 |
| 02/11/00 | TTW-00438 | W | 1080 | Air | 15.92 | 0.006 | ***4 | 0 | 53.33 | 0.0190 |

*No sample taken for Location Q due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 13, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | 822 | 08:19 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 50.6 | 451.1 |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 992 | 08:14 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.1 | 290.4 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 988 | 08:23 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 6.1 | 310.4 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | 970 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.2 | 712.7 |

NOTES:

No data was collected from DataRam Serial Number D078 at Perimeter Location 3 due to a malfunction of the Data Ram instrument.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 14, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2 | 2.0 |
| Start Time | 0625 | 0628 | 0623 |
| Stop Time | 1446 | 1448 | 1423 |
| Run Time (minutes) | 501 | 508 | 480 |
| Maximum Concentration ($ug/m^3$) | 128.35 | 35.58 | 105.50 |
| Average Concentration ($ug/m^3$) | 31.32 | 15.38 | 17.20 |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Tuesday, February 16-19, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on February 19**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 18 samples taken in and around ground zero on February 12. All one samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,049, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Staten Island Landfill:**

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 14 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 15 and February 18 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). Samples were also collected on February 16 at Location "L" and Location "R." All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from February 14 through February 18 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from February 14 through February 18 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, February 19, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 12, 1200 - 2338 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 14) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 14) - Particulate Monitoring (Dataram)

Errata: The particulate data submitted on the February 15 Sampling Situation Report was actually for Feb. 14. The report identified the results as being from Feb 13. The table itself was correctly dated.

NYC / ER (Feb 15) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8½ hours.
Station L had an average of 33.62 ug/$m^3$ with a maximum reading of 140.27 ug/$m^3$.
Station N had an average 19.51 ug/$m^3$ with a maximum reading of 72.29 ug/$m^3$.
Station R had an average 17.58 ug/$m^3$ with a maximum reading of 43.23 ug/$m^3$.

NYC / ER (Feb 16) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and R) were below the OSHA TWA.
Measurements were not taken at Location N due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 49.30 ug/$m^3$ with a maximum reading of 214.57 ug/$m^3$.
Station R had an average 36.55 ug/$m^3$ with a maximum reading of 65.65 ug/$m^3$.

NYC / ER (Feb 18) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 5.03 ug/$m^3$ with a maximum reading of 35.45 ug/$m^3$.
Station N had an average 3.54 ug/$m^3$ with a maximum reading of 41.51 ug/$m^3$.
Station R had an average 2.40 ug/$m^3$ with a maximum reading of 37.60 ug/$m^3$.

NYC / ER (Feb 14) - Volatile Organics (Mobile Laboratory)

Numerous compounds were identified above the detection limit (20 ppbv) at the South Tower in a ground level plume sample.
VOCs were not detected in any of the three other samples collected (Washing Tent, Austin Tobin Plaza, and North Tower).

NYC / ER (Feb 15) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Feb 16) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Feb 17) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Feb 18) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/15/02**
**Sampling Date and Time:** 2/12/02 1200 to 2338

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/12/02 | TTW-00457 | L | 1116.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/12/02 | TTW-00458 | M1 | 1094.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/12/02 | TTW-00459 | N | 1182.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/12/02 | TTW-00460 | N-Dup | 1037.85 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/12/02 | TTW-00461 | J | 1130.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/12/02 | TTW-00462 | Q | 1184.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/12/02 | TTW-00463 | Q-Dup | 1107 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/12/02 | TTW-00464 | F | 532.8 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0057 |
| 02/12/02 | TTW-00465 | A | 496.8 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0061 |
| 02/12/02 | TTW-00466 | B | 1065.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/12/02 | TTW-00467 | C | 1076.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/12/02 | TTW-00468 | D | 1117.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/12/02 | TTW-00469 | K | 1103.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/12/02 | TTW-00470 | U | 1214.5 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/12/02 | TTW-00471 | V | 1221.5 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/12/02 | TTW-00472 | S | 1159.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/12/02 | TTW-00473 | E | 1099.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/12/02 | TTW-00474 | W | 1087.2 | Air | 44.59 | 0.016 | 0 | 0 | <13.12 | <0.0046 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct) ,
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 14, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | 1070 | 08:55 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.5 | 332.1 |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 1071 | 08:55 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.2 | 688.9 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 1073 | 08:56 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.8 | 708.5 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | 638 | 05:19 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.0 | 374.8 |

NOTES:

No data was collected from DataRam Serial Number D078 at Perimeter Location 3 due to a malfunction of the Data Ram instrument.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 18, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0653 | 0657 | 0650 |
| **Stop Time** | 1455 | 1458 | 1453 |
| **Run Time (minutes)** | 482 | 481 | 483 |
| **Maximum Concentration ($ug/m^3$)** | 35.45 | 41.51 | 37.60 |
| **Average Concentration ($ug/m^3$)** | 5.03 | 3.54 | 2.40 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 16, 2002

| Location | L | N* | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | - | D074 |
| **Flow Rate (liters/minute)** | 2.0 | - | 2.0 |
| **Start Time** | 0645 | - | 0643 |
| **Stop Time** | 1452 | - | 1450 |
| **Run Time (minutes)** | 487 | - | 487 |
| **Maximum Concentration ($ug/m^3$)** | 214.57 | - | 65.65 |
| **Average Concentration ($ug/m^3$)** | 49.30 | - | 36.55 |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 15, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0623 | 0627 | 0621 |
| **Stop Time** | 1457 | 1500 | 1453 |
| **Run Time (minutes)** | 514 | 513 | 513 |
| **Maximum Concentration ($ug/m^3$)** | 140.27 | 72.29 | 43.23 |
| **Average Concentration ($ug/m^3$)** | 33.62 | 19.51 | 17.58 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/14/02**

| File Name | NYC1054 | NYC1055 | NYC1056 | NYC1057 | NYC1060 | NYC1058 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | Plume |
| Sample Number | | | A07471 | A07472 | A07473 | A07474 |
| Sample Height | | | Breathing Level | Breathing Level | Breathing Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | **56** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | **54** |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | **93** |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | **75** |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | **58** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | **84** |
| MTBE | RL | RL | RL | RL | RL | **480** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **43** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | **69** |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **24** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | **31** |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/13/02**

| File Name | NYC1043 | NYC1044 | NYC1045 | NYC1048 | NYC1050 | NYC1049 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower Plume |
| Sample Number | | | A07465 | A07466 | A07467 | A07468 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

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**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/18/02**

| File Name | NYC1087 | NYC1088 | NYC1089 | NYC1090 | NYC1092 | NYC1091 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07496 | A07497 | A07499 | A07498 |
| Sample Height | | | Breathing Level | Ground Level | Breathing Level | Breathing Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/17/02**

| File Name | NYC1079 | NYC1080 | NYC1081 | NYC1082 | NYC1084 | NYC1083 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07492 | A07493 | A07494 | A07495 |
| Sample Height | | | Breathing Level | Ground Level | Breathing Level | Breathing Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/16/02**

| File Name | NYC1071 | NYC1072 | NYC1073 | NYC1074 | NYC1076 | NYC1075 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07479 | A07480 | A07481 | A07491 |
| Sample Height | | | Breathing Level | Breathing Level | Breathing Level | Breathing Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/15/02**

| File Name | NYC1063 | NYC1065 | NYC1064 | NYC1066 | NYC1068 | NYC1067 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07475 | A07476 | A07477 | A07478 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, February 20, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on February 20**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 48 samples taken in and around ground zero on February 13 and February 14. EPA also sampled for asbestos at two additional lower Manhattan locations on February 10 and February 11. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,101, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx) and P.S. 44 (80 Maple Parkway, Staten Island) on February 10 and February 11. Samples were also collected at P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 199 (3290 48th St., Queens) on February 11. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Fifty-six air samples collected from February 12 through February 14 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 19 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 19 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from February 19 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, February 20, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 13, 0001 - 1126 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations U and E) were not collected due to equipment malfunctions.

NYC / ER (Feb 13, 1200 - 2359 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location A) was not collected due to an equipment malfunction.

NYC / ER (Feb 14, 0001 - 1049 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
3 samples (Locations W, D, and K) were not collected due to equipment malfunctions.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 12, 0757 - 2235 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 13, 0745 - 2225 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 14, 0742 - 2000 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-8) was not collected due to an equipment malfunction.
Note: Low sample volume recorded.

Ambient Air Sampling Locations

NYC / ER (Feb 10 - 11) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)

- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 12 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
1 sample (Site 9) was not collected on Feb. 10 due to an equipment malfunction.
1 sample (Site 7) from Feb. 10 was not analyzed due to a wet filter.

NYC / ER (Feb 17) - Particulate Monitoring (Dataram)

Particulate level measurements were not collected at Locations L, N, and R due to the weather conditions.

NYC / ER (Feb 19) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 27.77 ug/$m^3$ with a maximum reading of 337.24 ug/$m^3$.
Station N had an average 21.29 ug/$m^3$ with a maximum reading of 233.60 ug/$m^3$.
Station R had an average 22.98 ug/$m^3$ with a maximum reading of 66.39 ug/$m^3$.

NYC / ER (Feb 19) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 2/13/02 0001 to 1126

**Data Validation Date: 02/15/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/13/02 | FB021302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/13/02 | TB021302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/13/02 | TTW-00475 | L | 999 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/13/02 | TTW-00476 | L-Dup | 1056.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/13/02 | TTW-00477 | M1 | 1011.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 02/13/02 | TTW-00478 | N | 1086.75 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0046 |
| 02/13/02 | TTW-00479 | J | 1058.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/13/02 | TTW-00480 | Q | 1174.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/13/02 | TTW-00481 | F | 1048.25 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0048 |
| 02/13/02 | TTW-00482 | F-Dup | 1072.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/13/02 | TTW-00483 | A | 1200.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/13/02 | TTW-00484 | B | 936 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/13/02 | TTW-00485 | C | 1198.8 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0051 |
| 02/13/02 | TTW-00486 | D | 1118.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/13/02 | TTW-00487 | K | 1055.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/13/02 | TTW-00488 | V | 1130.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/13/02 | TTW-00489 | S | 1038.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0042 |
| 02/13/02 | TTW-00490 | W | 1009.8 | Air | 48.41 | 0.019 | 0 | 0 | <11.25 | <0.0043 |

Samples locations U and E were not submitted due to pump fault.

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volume (liters) are below recommer limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/17/02**
**Sampling Date and Time:** **2/13/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/13/02 | TTW-00491 | L | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/13/02 | TTW-00492 | M1 | 1034.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/13/02 | TTW-00493 | N | 1114.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/13/02 | TTW-00494 | J | 1092.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/13/02 | TTW-00495 | J-Dup | 1135.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/13/02 | TTW-00496 | Q | 1254.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/13/02 | TTW-00497 | F | 1188 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/13/02 | TTW-00498 | A-Dup | 1115.55 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/13/02 | TTW-00499 | B | 1177.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/13/02 | TTW-00500 | C | 1017 | Air | <7.0 | <0.003 | ***1 | ***1 | 22.86 | 0.0087 |
| 02/13/02 | TTW-00501 | D | 1121.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/13/02 | TTW-00502 | K | 387 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0080 |
| 02/13/02 | TTW-00503 | U | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/13/02 | TTW-00504 | V | 1254.75 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/13/02 | TTW-00505 | S | 1099 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/13/02 | TTW-00506 | E | 1105.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/13/02 | TTW-00507 | W | 1080 | Air | 12.74 | 0.005 | ***1 | ***1 | 26.67 | 0.0095 |

*No sample for location A due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/17/02**
**Sampling Date and Time:** **2/14/02 0001 to 1049**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/14/02 | FB021402 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/14/02 | TB021402 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/14/02 | TTW-00508 | L | 1015.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/14/02 | TTW-00509 | M1 | 983.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/14/02 | TTW-00510 | N | 1067.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0041 |
| 02/14/02 | TTW-00511 | J | 994 | Air | <7.0 | <0.003 | ***1 | 0 | 11.43 | 0.0044 |
| 02/14/02 | TTW-00512 | Q | 1166.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/14/02 | TTW-00513 | F | 1062.25 | Air | 7.64 | 0.003 | ***1 | 0 | 13.33 | 0.0048 |
| 02/14/02 | TTW-00514 | A | 1009.8 | Air | 8.28 | 0.003 | ***3 | 0 | 34.29 | 0.0131 |
| 02/14/02 | TTW-00515 | B | 941.4 | Air | <7.0 | <0.003 | ***1 | 0 | 11.43 | 0.0047 |
| 02/14/02 | TTW-00516 | B-Dup | 1089.65 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/14/02 | TTW-00517 | C | 1127 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0046 |
| 02/14/02 | TTW-00518 | U | 1036.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/14/02 | TTW-00519 | U-Dup | 948.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/14/02 | TTW-00520 | V | 1099 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0047 |
| 02/14/02 | TTW-00521 | S | 1022 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/14/02 | TTW-00522 | E | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

*No sample was taken for Location W,D, and K due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/12/02 0757 to 2235**

**Data Validation Date: 02/15/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/12/02 | LF02780 | P-1 | 1174.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/12/02 | LF02781 | P-2 | 1396.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/12/02 | LF02782 | P-3 | 1197.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/12/02 | LF02783 | P-4 | 1224.38 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/12/02 | LF02784 | P-5 | 1316.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/12/02 | LF02785 | P-6 | 1126.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/12/02 | LF02786 | P-7 | 1352.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/12/02 | LF02787 | P-8 | 1274.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/12/02 | LF02788 | W-11 | 1146.00 | Air | 34.39 | 0.0012 | ***1 | 0 | 13.12 | 0.0044 |
| 02/12/02 | LF02789 | W-12A | 1110.00 | Air | 42.04 | 0.015 | ***1 | ***1 | 26.25 | 0.0091 |
| 02/12/02 | LF02790 | W-12B | 1102.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/12/02 | LF02791 | B-13 | 1302.00 | Air | <7.0 | <0.002 | ***2 | 0 | 31.50 | 0.0093 |
| 02/12/02 | LF02792 | B-14 | 1404.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0043 |
| 02/12/02 | LF02793 | T-15 | 1440.00 | Air | 19.11 | 0.005 | ***1 | 0 | 15.75 | 0.0042 |
| 02/12/02 | LF02794 | T-16 | 1440.00 | Air | 15.29 | 0.004 | 0 | 0 | <15.75 | <0.0042 |
| 02/12/02 | LF02795 | O-17 | 1362.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/12/02 | LF02796 | O-18 | 1287.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/12/02 | LF02797 | O-19 | 1244.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/12/02 | LF02798 | MPHS-20 | 1338.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/12/02 | LF02799 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/12/02 | LF02800 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-12-02rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/13/02 0745 to 2225**

**Data Validation Date: 02/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/13/02 | LF02801 | P-1 | 1359.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/13/02 | LF02802 | P-2 | 1364.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/13/02 | LF02803 | P-3 | 1350.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/13/02 | LF02804 | P-4 | 1304.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/13/02 | LF02805 | P-5 | 1300.65 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/13/02 | LF02806 | P-6 | 1148.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/13/02 | LF02807 | P-7 | 1170.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/13/02 | LF02808 | P-8 | 1149.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/13/02 | LF02809 | W-11 | 1318.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/13/02 | LF02810 | W-12A | 1378.00 | Air | <7.0 | <0.002 | 0 | ***1 | 15.75 | 0.0044 |
| 02/13/02 | LF02811 | W-12B | 1141.88 | Air | 7.64 | 0.003 | ***1 | ***2 | 39.37 | 0.0133 |
| 02/13/02 | LF02812 | B-13 | 1434.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/13/02 | LF02813 | B-14 | 1135.70 | Air | NA (1) | NA (1) | ***1 | 0.00 | 13.12 | 0.0044 |
| 02/13/02 | LF02814 | T-15 | 1440.00 | Air | <7.0 | <0.002 | ***1 | ***1 | 31.50 | 0.0084 |
| 02/13/02 | LF02815 | T-16 | 1260.00 | Air | 19.11 | 0.006 | 0 | 0 | <15.75 | <0.0048 |
| 02/13/02 | LF02816 | O-17 | 1349.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/13/02 | LF02817 | O-18 | 1246.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/13/02 | LF02818 | O-19 | 1372.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/13/02 | LF02819 | MPHS-20 | 1234.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/13/02 | LF02820 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/13/02 | LF02821 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-13-02rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/14/02 0742 to 2000**

**Data Validation Date: 02/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/14/02 | LF02822 | P-1 | 1268.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0048 |
| 02/14/02 | LF02823 | P-2 | 1435.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/14/02 | LF02824 | P-3 | 6.15 | Air | <7.0 | <0.438 | 0 | 0 | <7.87 | <0.4929 |
| 02/14/02 | LF02825 | P-4 | 1330.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/14/02 | LF02826 | P-5 | 1201.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/14/02 | LF02827 | P-6 | 1050.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/14/02 | LF02828 | P-7 | 1290.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/14/02 | LF02830 | W-11 | 1394.00 | Air | 26.75 | 0.007 | ***1 | 0 | 15.75 | 0.0043 |
| 02/14/02 | LF02831 | W-12A | 1117.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/14/02 | LF02832 | W-12B | 1191.45 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/14/02 | LF02833 | B-13 | 1269.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/14/02 | LF02834 | B-14 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/14/02 | LF02835 | T-15 | 1440.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/14/02 | LF02836 | T-16 | 1440.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0042 |
| 02/14/02 | LF02837 | O-17 | 1230.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/14/02 | LF02838 | O-18 | 1315.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/14/02 | LF02839 | O-19 | 1360.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/14/02 | LF02840 | MPHS-20 | 1260.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/14/02 | LF02841 | P-1D | 1363.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/14/02 | LF02842 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/14/02 | LF02843 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

No sample taken for LF02829 due to pump fault

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-14-02rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/10/02 1200 to 2400**

**Data Validation Date: 02/15/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/10/02 | 7093-18-0136 | Park Row | 1144 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/10/02 | 7093-19-0136 | Chambers Street | 900 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 02/10/02 | 7093-15-0134 | I.S. 143 | 1110 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/10/02 | 7094-09-0124 | P.S. 154 (Bronx) | 1304 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/10/02 | 7095-98-0130 | P.S. 274(Brookiyn) | 1080 | Air | NS | NS | NS | NS | NS | NS |
| 02/10/02 | 7097-18-0127 | P.S. 44 (S.I) | 1208 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |

*Sample for location P.S. 199 (Queens) was not submitted due to pump fault*
*Sample # 7095-98-0130 was voided because the filter was wet.*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/15/02**
**Sampling Date and Time: 2/11/02 1200 to 2400**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/11/02 | 7093-18-0137 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/11/02 | 7093-19-0137 | Chambers Street | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/11/02 | 7093-15-0135 | I.S. 143 | 1330 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/11/02 | 7094-09-0125 | P.S. 154 (Bronx) | 1290 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/11/02 | 7096-12-0131 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/11/02 | 7095-98-0131 | P.S. 274(Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/11/02 | 7097-18-0128 | P.S. 44 (S.I) | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 19, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0639 | 0642 | 0637 |
| **Stop Time** | 1451 | 1502 | 1449 |
| **Run Time (minutes)** | 492 | 500 | 492 |
| **Maximum Concentration ($ug/m^3$)** | 337.24 | 233.60 | 66.39 |
| **Average Concentration ($ug/m^3$)** | 27.77 | 21.29 | 22.98 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/19/02**

| File Name | NYC1095 | NYC1096 | NYC1097 | NYC1098 | NYC1100 | NYC1099 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07500 | A07501 | A07503 | A07502 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, February 21, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:45 p.m. on February 21**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 67 samples taken in and around ground zero from February 14 through February 16. EPA also sampled for asbestos at two additional lower Manhattan locations on February 12 and February 13. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,172, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island) on February 12 and February 13. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Twenty air samples collected on February 15 were analyzed for asbestos. A sample taken at one of the Wash Tents (Location W-11) showed 78.7 structures per square

millimeter, which exceeds the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 15, 19 and 20 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 20 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 20 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from February 20 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the South Tower debris pile, and the North Tower debris pile showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, February 21, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 14, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 15, 0001 - 1045 hrs)

All 13 samples analyzed were below the TEM AHERA standard.
5 samples (Locations A, N, S, K-duplicate, and U) were not analyzed due to equipment malfunctions.

NYC / ER (Feb 15, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 16, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 14, 0742 - 2000 hrs)

Resubmittal: Previously stated in Feb. 20 Sampling Situation Report that all 18 samples analyzed were below the TEM AHERA standard. Should have actually read that all 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 15, 0730 - 2226 hrs)

1 of 20 samples was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location W-11 (78.74 S/mm$^2$).

Fresh Kills (Feb 15) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Feb 16 - 17) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Fresh Kills (Feb 18) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to equipment malfunctions.

Fresh Kills (Feb 19) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-5, and P-6) based on daily average concentrations.

Fresh Kills (Feb 20) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-5 and P-6) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 12 - 13) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 20) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 52.34 $ug/m^3$ with a maximum reading of 131.82 $ug/m^3$.
Station N had an average 54.55 $ug/m^3$ with a maximum reading of 239.11 $ug/m^3$.
Station R had an average 54.48 $ug/m^3$ with a maximum reading of 85.35 $ug/m^3$.

NYC / ER (Feb 20) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/17/02**
**Sampling Date and Time:** **2/14/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/14/02 | TTW-00523 | L | 1127 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/14/02 | TTW-00524 | M1 | 1020.25 | Air | 8.92 | 0.003 | ***1 | 0 | 11.43 | 0.0043 |
| 02/14/02 | TTW-00525 | N | 1043 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/14/02 | TTW-00526 | J | 1169 | Air | 10.19 | 0.003 | ***1 | 0 | 13.33 | 0.0044 |
| 02/14/02 | TTW-00527 | Q | 1048.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/14/02 | TTW-00528 | F | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/14/02 | TTW-00529 | A | 1141.2 | Air | 14.65 | 0.005 | 0 | 0 | <13.33 | <0.0045 |
| 02/14/02 | TTW-00530 | B | 1146.6 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0045 |
| 02/14/02 | TTW-00531 | C | 1096.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 02/14/02 | TTW-00532 | D | 1179 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/14/02 | TTW-00533 | K | 1204.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/14/02 | TTW-00534 | U | 1039.3 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/14/02 | TTW-00535 | U-Dup | 1063.8 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/14/02 | TTW-00536 | V | 1126.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/14/02 | TTW-00537 | S | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/14/02 | TTW-00538 | E | 1200.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/14/02 | TTW-00539 | E-Dup | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/14/02 | TTW-00540 | W | 1193.4 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (filters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-14-02-pmrev1.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/17/02**
**Sampling Date and Time:** **2/15/02 0001 to 1045**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 02/15/02 | FB021502 | Field Blank | 0 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 02/15/02 | TB021502 | Trip Blank | 0 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 02/15/02 | TTW-00541 | L | 962.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/15/02 | TTW-00542 | M1 | 1085 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/15/02 | TTW-00543 | J | 1032.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/15/02 | TTW-00544 | J-Dup | 968.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/15/02 | TTW-00545 | Q | 1045 | Air | 11.46 | 0.004 | 0 | 0 | <11.43 | <0.0042 |
| 02/15/02 | TTW-00546 | F | 1105.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/15/02 | TTW-00547 | B | 928.8 | Air | 7.64 | 0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/15/02 | TTW-00548 | C | 1155.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/15/02 | TTW-00549 | D | 1161 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/15/02 | TTW-00550 | K | 1132.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/15/02 | TTW-00551 | V | 991.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/15/02 | TTW-00552 | E | 1015 | Air | 7.64 | 0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/15/02 | TTW-00553 | W | 1002.6 | Air | <7.0 | <0.003 | 0 | ***1 | 11.43 | 0.0044 |

*No sample was taken for Locations N,A,S, K-Dup and U due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA$^{(1)}$ - Not analyzed due to overloading of particulates
NA$^{(2)}$ - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/18/02**
**Sampling Date and Time:** **2/15/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/15/02 | TTW-00554 | L | 1287 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/15/02 | TTW-00555 | M1 | 1213.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/15/02 | TTW-00556 | N | 1180.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/15/02 | TTW-00557 | J | 1139.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/15/02 | TTW-00558 | J-Dup | 1132.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/15/02 | TTW-00559 | Q | 1254.6 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/15/02 | TTW-00560 | F | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/15/02 | TTW-00561 | A | 1161 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/15/02 | TTW-00562 | B | 1287 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/15/02 | TTW-00563 | C | 1130.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/15/02 | TTW-00564 | D | 1060.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/15/02 | TTW-00565 | D-Dup | 1278 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/15/02 | TTW-00566 | K | 1141.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/15/02 | TTW-00567 | U | 1229.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/15/02 | TTW-00568 | V | 1247.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/15/02 | TTW-00569 | S | 1085.4 | Air | 7.01 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 02/15/02 | TTW-00570 | E | 1281.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/15/02 | TTW-00571 | W | 1096.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0047 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/18/02**
**Sampling Date and Time: 2/16/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/16/02 | FB021602 | Field Blank | 0 | Air | NS | | NS | NS | | |
| 02/16/02 | TB021602 | Trip Blank | 0 | Air | NS | | NS | NS | | |
| 02/16/02 | TTW-00572 | L | 968.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/16/02 | TTW-00573 | M1 | 1051.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/16/02 | TTW-00574 | N | 981 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/16/02 | TTW-00575 | J | 1166.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/16/02 | TTW-00576 | J-Dup | 1060.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/16/02 | TTW-00577 | Q | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/16/02 | TTW-00578 | F | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/16/02 | TTW-00579 | A | 1058.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/16/02 | TTW-00580 | B | 990 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/16/02 | TTW-00581 | C | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/16/02 | TTW-00582 | C-Dup | 1038.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/16/02 | TTW-00583 | D | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/16/02 | TTW-00584 | K | 217.8 | Air | <7.0 | <0.012 | 0 | 0 | <8.00 | <0.0141 |
| 02/16/02 | TTW-00585 | U | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/16/02 | TTW-00586 | V | 1197 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/16/02 | TTW-00587 | S | 1112.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/16/02 | TTW-00588 | E | 1144.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/16/02 | TTW-00589 | W | 1150.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected

NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-02-16-02-amrev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/15/02 0730 to 2226**

**Data Validation Date: 02/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/15/02 | LF02845 | P-1 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/15/02 | LF02846 | P-2 | 1440.00 | Air | 10.19 | 0.003 | 0 | 0 | <15.75 | <0.0042 |
| 02/15/02 | LF02847 | P-3 | 1000.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0061 |
| 02/15/02 | LF02848 | P-4 | 1440.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0042 |
| 02/15/02 | LF02849 | P-5 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/15/02 | LF02850 | P-6 | 1199.25 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0042 |
| 02/15/02 | LF02851 | P-7 | 1378.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/15/02 | LF02852 | P-8 | 1418.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/15/02 | LF02853 | W-11 | 1372.00 | Air | 34.39 | 0.010 | ***3 | ***2 | 78.74 | 0.0221 |
| 02/15/02 | LF02854 | W-12A | 1357.20 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0045 |
| 02/15/02 | LF02855 | W-12B | 1187.55 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/15/02 | LF02856 | B-13 | 1476.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0041 |
| 02/15/02 | LF02857 | B-14 | 1414.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/15/02 | LF02858 | T-15 | 1476.00 | Air | 14.01 | 0.004 | 0 | 0 | <15.75 | <0.0041 |
| 02/15/02 | LF02859 | T-16 | 1728.00 | Air | 17.83 | 0.004 | 0 | 0 | <19.69 | <0.0044 |
| 02/15/02 | LF02860 | O-17 | 1532.70 | Air | <7.0 | <0.002 | 0 | 0 | <19.69 | <0.0049 |
| 02/15/02 | LF02861 | O-18 | 1327.95 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/15/02 | LF02862 | O-19 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/15/02 | LF02863 | MPHS-20 | 1353.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/15/02 | LF02864 | P-1D | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/15/02 | LF02865 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/15/02 | LF02866 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (filers) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-15-02rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/18/02**
**Sampling Date and Time:** 2/12/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/12/02 | 7093-18-0138 | Park Row | 1174 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/12/02 | 7093-19-0138 | Chambers Street | 1254 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/12/02 | 7093-15-0136 | I.S. 143 | 1216 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/12/02 | 7094-09-0126 | P.S. 154 (Bronx) | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/12/02 | 7096-12-0132 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/12/02 | 7095-98-0132 | P.S. 274(Brooklyn) | 1082 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/12/02 | 7097-18-0129 | P.S. 44 (S.I) | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/18/02**
**Sampling Date and Time: 2/13/02 1200 to 2325**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/13/02 | 7093-18-0139 | Park Row | 1190 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/13/02 | 7093-19-0139 | Chambers Street | 1146 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/13/02 | 7093-15-0137 | I.S. 143 | 1370 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/13/02 | 7094-09-0127 | P.S. 154 (Bronx) | 1300 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/13/02 | 7096-12-0133 | P.S. 199 (Queens) | 1164 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/13/02 | 7095-98-0133 | P.S. 274(Brooklyn) | 1294 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/13/02 | 7097-18-0130 | P.S. 44 (S.I) | 1356 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 15 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | 964 | 08:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 8.5 | 448.7 |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 964 | 08:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.5 | 209.5 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 965 | 08:03 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.9 | 783.3 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | 957 | 09:58 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.32 | 1247.9 |

NOTES:

No data was collected from DataRam Serial Number D078 at Perimeter Location P3.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 19 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | 369 | 03:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 49.3 | 1328.3 |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 1057 | 08:49 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 16.8 | 1372.1 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 1059 | 08:50 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.9 | 2490.9 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |

NOTES:

No data was collected from DataRam Serial Number D078 at Perimeter Location P3 and D077 at Location P8.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 20, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 1160 | 09:40 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 51.5 | 1030.8 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 1165 | 09:42 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 48.2 | 1131.2 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |

NOTES:

No data was collected from DataRam Serial Number D078 at Perimeter Location P3 and D077 at Location P8.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 20, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0648 | 0647 | 0643 |
| **Stop Time** | 1452 | 1452 | 1448 |
| **Run Time (minutes)** | 482 | 485 | 485 |
| **Maximum Concentration ($ug/m^3$)** | 131.82 | 239.11 | 85.35 |
| **Average Concentration ($ug/m^3$)** | 52.34 | 54.55 | 54.48 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/20/02**

| File Name | NYC1103 | NYC1104 | NYC1105 | NYC1106 | NYC1108 | NYC1107 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07504 | A07505 | A07507 | A07506 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, February 22, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on February 22**

**Staten Island Landfill:**

**Air (Asbestos)** - Twenty air samples collected on February 16 were analyzed for asbestos. A sample taken at one of the Wash Tents (Location W-11) showed 78.7 structures per square millimeter, which exceeds the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**Metals** - A total of 10 samples were collected on January 22 and January 29. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 21 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from December 18 through December 23, from December 25 through December 31, on January 3, from January 8 through January 12, and on January 20, 22 and 24 at a location on Park Row in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on December 20 and 21, from December 23 through December 31, on January 3, on January 8 and 9, on January 11 and 12, and from January 20 through January 24 at Chambers & West Streets in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was

conducted from December 24 through December 31, on January 3, from January 8 through January 12, from January 20 through January 22, and on January 24 at a location on Albany Street in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on December 18, from December 20 through December 23, from December 26 through January 2, and on January 4 and January 5 at Public School 274 (800 Bushwick Avenue, Brooklyn). All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from December 18 through December 23 at the Coast Guard Building (Battery Park) in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Dioxin** - A total of 6 samples were collected from January 28 to February 4 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**PAHs** - A total of 20 samples were collected on January 8 and January 10 at various locations in Lower Manhattan. PAHs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 21 in the direct area of the excavation area at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 21 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North and South Tower excavation areas showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, February 22, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 16, 0705 - 2114 hrs)

1 of 20 samples was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location W-11 (78.74 S/mm$^2$).

Fresh Kills (Jan 22) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Jan 29) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Feb 21) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Jan 28 - Feb 4) - Dioxin (EPA-ORD)

Six (6) 72-hour samples were collected during this period at Park Row (2 samples), Chambers St./West St. (2 samples), and Albany St. (2 samples) at roof top locations.
None of the samples collected were above the EPA Removal Action guidelines (based on a 30-year exposure).
Note: The analytical results for all of these samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Jan 8) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 10) - PAHs

All 10 samples analyzed did not detect any PAHs

NYC / ER (Dec 18) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.5 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***12.1 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***11.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 19) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***40.1 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***21.2 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 20) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***44.7 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***29.2 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***20.7 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***21.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 21) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***25.0 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***22.7 ug/m$^3$***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***11.8 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***11.3 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 22) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.4 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***52.4 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***5.3 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Dec 23) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***30.4 ug/m³***.
Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***46.6 ug/m³***.
Coast Guard Building - Battery Park (Site 3) - 24-hour average concentration for this period was ***33.0 ug/m³***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***3.9 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Dec 24) - Particulate Monitoring ($PM_{10}$ filter)

Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***25.0 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***24.8 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Dec 25) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.4 ug/m³***.
Chambers St./West St. (Site 2) - 24-hr average concentration for this period was ***20.5 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***22.8 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Dec 26) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***24.6 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.9 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***31.4 ug/m³***.

P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***23.8 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 27) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***43.1 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***44.0 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***34.2 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***22.2 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 28) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***40.9 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***46.3 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***30.5 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***21.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 29) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***40.8 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***29.2 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***22.9 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***18.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 30) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***38.1 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***20.0 ug/m$^3$***.

Albany St. - 24-hr average concentration for this period was ***32.5 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***16.6 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Dec 31) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***41.1 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***25.7 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***44.5 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***21.3 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 1) - Particulate Monitoring ($PM_{10}$ filter)

P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***17.1 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 2) - Particulate Monitoring ($PM_{10}$ filter)

P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***20.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 3) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***33.8 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***44.9 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***27.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 4) - Particulate Monitoring ($PM_{10}$ filter)

P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***24.9 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150

ug/m$^3$).

NYC / ER (Jan 5) - Particulate Monitoring ($PM_{10}$ filter)

P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***25.2 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 8) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***28.5 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***26.6 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***12.5 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 9) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***31.8 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***33.0 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***24.5 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 10) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***39.9 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***34.5 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 11) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***31.7 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***42.1 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***30.4 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 12) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***28.3 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***28.2 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***18.6 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Jan 20) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***29.6 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***27.4 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***26.7 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Jan 21) - Particulate Monitoring ($PM_{10}$ filter)

Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***43.3 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***36.9 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Jan 22) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***37.8 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***29.0 ug/m³***.
Albany St. - 24-hr average concentration for this period was ***30.4 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Jan 23) - Particulate Monitoring ($PM_{10}$ filter)

Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***31.7 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 $ug/m^3$).

NYC / ER (Jan 24) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***28.5 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***30.0 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***23.1 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 21) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 68.16 ug/m$^3$ with a maximum reading of 177.65 ug/m$^3$.
Station N had an average 68.69 ug/m$^3$ with a maximum reading of 209.0 ug/m$^3$.
Station R had an average 60.09 ug/m$^3$ with a maximum reading of 149.21 ug/m$^3$.

NYC / ER (Feb 21) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

NYC / ER (Jan 23) - Asbestos

1 bulk sample collected from the roof of a trailer near Warren St./West St. contained less than 1% chrysotile asbestos.
3 bulk samples collected from Pier 6 did not detect any asbestos.
Data not attached electronically.

Water Sampling

NYC / ER (Jan 10)

2 samples collected of ponded water from the base of the excavation at Ground Zero.
Analytical parameters included: metals (cadmium, copper, lead, mercury, nickel, zinc), PCBs, volatile organics, total petroleum hydrocarbons, hexavalent chromium, flashpoint, total suspended solids, temperature, and pH.
PCBs were not detected.
Volatile organics (max. values): benzene (2.9 ug/l), toluene (27 ug/l), tetrachloroethene (3.9 ug/l), ethylbenzene (8.2 ug/l), m/p xylenes (21 ug/l),

o-xylenes (12 ug/l), naphthalene (10 ug/l), methyl tert-butyl ether (170 ug/l).
Metals (max. values): cadmium (ND), copper (40.4J ug/l), lead (40.5 ug/l), mercury (0.61 ug/l), nickel (14.9B ug/l), zinc (135 ug/l).
Hexavalent chromium (max. value): 0.05 ug/l.
pH (maximum value): 11.7
Data not attached electronically.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/16/02 0705 to 2114**

**Data Validation Date: 02/19/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/16/02 | LF2867 | P-1 | 1246.05 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/16/02 | LF2868 | P-2 | 55.10 | Air | <7.0 | <0.049 | 0 | 0 | <7.87 | <0.0050 |
| 02/16/02 | LF2869 | P-3 | 1380.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/16/02 | LF2870 | P-4 | 1324.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/16/02 | LF2871 | P-5 | 1.60 | Air | <7.0 | <1.683 | 0 | 0 | <7.87 | <1.8947 |
| 02/16/02 | LF2872 | P-6 | 1196.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0051 |
| 02/16/02 | LF2873 | P-7 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/16/02 | LF2874 | P-8 | 1388.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/16/02 | LF2875 | W-11 | 1132.80 | Air | 104.46 | 0.036 | ***6 | 0 | 78.74 | 0.0268 |
| 02/16/02 | LF2876 | W-12A | 1310.40 | Air | 59.87 | 0.018 | ***1 | 0 | 15.75 | 0.0046 |
| 02/16/02 | LF2877 | W-12B | 1290.90 | Air | 44.59 | 0.013 | 0 | 0 | <15.75 | <0.0047 |
| 02/16/02 | LF2878 | B-13 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/16/02 | LF2879 | B-14 | 1382.55 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/16/02 | LF2880 | T-15 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/16/02 | LF2881 | T-16 | 1440.00 | Air | 28.03 | 0.007 | 0 | 0 | <15.75 | <0.0042 |
| 02/16/02 | LF2882 | O-17 | 1428.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/16/02 | LF2883 | O-18 | 1239.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/16/02 | LF2884 | O-19 | 1336.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/16/02 | LF2885 | MPHS-20 | 1390.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/16/02 | LF2886 | P-1D | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/16/02 | LF2887 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/16/02 | LF2888 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-16-02rev1.xls

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0083 | | WTC-0084 | | WTC-0078 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 646 | |
| Date Collected | | - | | - | | - | | 01/29/02 | | 01/29/02 | | 01/29/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.9 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.19 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.19 |
| Calcium | ICAP | 7.0 | 2.5 | 3.7 | 2.5 | 3.6 | 2.5 | U | 2.5 | U | 2.5 | U | 3.9 |
| Chromium | ICAP | 1.7 | 0.13 | 0.75 | 0.13 | 0.86 | 0.13 | U | 0.13 | U | 0.13 | U | 0.19 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.39 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.39 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.97 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 19 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.19 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.39 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 77 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.19 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 19 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.077 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.39 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.39 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0079 | | WTC-0080 | | WTC-0081 | | WTC-0082 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 4690 | | 3730 | | 4940 | | 5220 | |
| Date Collected | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.89 | 0.27 | U | 0.34 | 0.79 | 0.25 | 0.42 | 0.24 |
| Antimony | AA-Fur | U | 0.011 | U | 0.013 | U | 0.01 | U | 0.0096 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.013 | U | 0.01 | U | 0.0096 |
| Barium | ICAP | 0.041 | 0.027 | U | 0.034 | 0.10 | 0.025 | 0.03 | 0.024 |
| Beryllium | ICAP | U | 0.011 | U | 0.013 | U | 0.01 | U | 0.0096 |
| Cadmium | ICAP | U | 0.027 | U | 0.034 | U | 0.025 | U | 0.024 |
| Calcium | ICAP | 3.4 | 0.53 | 0.73 | 0.67 | 3.0 | 0.51 | 1.9 | 0.48 |
| Chromium | ICAP | U | 0.027 | U | 0.034 | U | 0.025 | U | 0.024 |
| Cobalt | ICAP | U | 0.053 | U | 0.067 | U | 0.051 | U | 0.048 |
| Copper | ICAP | U | 0.053 | U | 0.067 | 0.066 | 0.051 | U | 0.048 |
| Iron | ICAP | 1.7 | 0.13 | 0.75 | 0.17 | 2.3 | 0.13 | 0.94 | 0.12 |
| Lead | AA-Fur | 0.044 | 0.011 | U | 0.013 | 0.053 | 0.01 | 0.02 | 0.0096 |
| Magnesium | ICAP | U | 2.7 | U | 3.4 | U | 2.5 | U | 2.4 |
| Manganese | ICAP | 0.039 | 0.027 | U | 0.034 | 0.04 | 0.025 | U | 0.024 |
| Nickel | ICAP | U | 0.053 | U | 0.067 | U | 0.051 | U | 0.048 |
| Potassium | ICAP | U | 11 | U | 13 | U | 10 | U | 9.6 |
| Selenium | AA-Fur | U | 0.011 | U | 0.013 | U | 0.01 | U | 0.0096 |
| Silver | ICAP | U | 0.027 | U | 0.034 | U | 0.025 | U | 0.024 |
| Sodium | ICAP | U | 2.7 | U | 3.4 | U | 2.5 | U | 2.4 |
| Thallium | AA-Fur | U | 0.011 | U | 0.013 | U | 0.01 | U | 0.0096 |
| Vanadium | ICAP | U | 0.053 | U | 0.067 | U | 0.051 | U | 0.048 |
| Zinc | ICAP | 0.12 | 0.053 | 0.079 | 0.067 | 0.18 | 0.051 | 0.081 | 0.048 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0076 | | WTC-0077 | | WTC-0071 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4830 | |
| Date Collected | | - | | - | | - | | 01/22/02 | | 01/22/02 | | 01/22/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 3.9 | 2.5 | 3.6 | 2.5 | 3.9 | 2.5 | U | 2.5 | U | 2.5 | U | 0.52 |
| Chromium | ICAP | 0.65 | 0.13 | 0.75 | 0.13 | 0.70 | 0.13 | 0.30 | 0.13 | U | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0072 | | WTC-0073 | | WTC-0074 | | WTC-0075 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 3800 | | 3970 | | 5350 | | 5350 | |
| Date Collected | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.33 | U | 0.31 | 0.42 | 0.23 | U | 0.23 |
| Antimony | AA-Fur | U | 0.013 | U | 0.013 | U | 0.0093 | U | 0.0093 |
| Arsenic | AA-Fur | U | 0.013 | U | 0.013 | U | 0.0093 | U | 0.0093 |
| Barium | ICAP | U | 0.033 | U | 0.031 | 0.065 | 0.023 | U | 0.023 |
| Beryllium | ICAP | U | 0.013 | U | 0.013 | U | 0.0093 | U | 0.0093 |
| Cadmium | ICAP | U | 0.033 | U | 0.031 | U | 0.023 | U | 0.023 |
| Calcium | ICAP | U | 0.66 | 0.88 | 0.63 | 2.2 | 0.47 | 0.55 | 0.47 |
| Chromium | ICAP | U | 0.033 | U | 0.031 | U | 0.023 | U | 0.023 |
| Cobalt | ICAP | U | 0.066 | U | 0.063 | U | 0.047 | U | 0.047 |
| Copper | ICAP | U | 0.066 | U | 0.063 | 0.049 | 0.047 | U | 0.047 |
| Iron | ICAP | U | 0.16 | 0.47 | 0.16 | 1.4 | 0.12 | 0.29 | 0.12 |
| Lead | AA-Fur | U | 0.013 | U | 0.013 | 0.022 | 0.0093 | U | 0.0093 |
| Magnesium | ICAP | U | 3.3 | U | 3.1 | U | 2.3 | U | 2.3 |
| Manganese | ICAP | U | 0.033 | U | 0.031 | U | 0.023 | U | 0.023 |
| Nickel | ICAP | U | 0.066 | U | 0.063 | U | 0.047 | U | 0.047 |
| Potassium | ICAP | U | 13 | U | 13 | U | 9.3 | U | 9.3 |
| Selenium | AA-Fur | U | 0.013 | U | 0.013 | U | 0.0093 | U | 0.0093 |
| Silver | ICAP | U | 0.033 | U | 0.031 | U | 0.023 | U | 0.023 |
| Sodium | ICAP | U | 3.3 | U | 3.1 | 4.0 | 2.3 | U | 2.3 |
| Thallium | AA-Fur | U | 0.013 | U | 0.013 | U | 0.0093 | U | 0.0093 |
| Vanadium | ICAP | U | 0.066 | U | 0.063 | U | 0.047 | U | 0.047 |
| Zinc | ICAP | U | 0.066 | U | 0.063 | 0.10 | 0.047 | 0.067 | 0.047 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for PAH in Air
WA # 0-0236: NYC ER Site

| Date Sampled 1/10/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06134 | | 06135 | |
| Sampling Location | E-Liberty St & South End Ave | | Field Blank | |
| Volume (L) | 468 | | 0 | |
| | Conc. | MDL | Conc. | MDL |
| Compound Name | ppbv | ppbv | µg | µg |
| Naphthalene | U | 4.4 | U | 11 |
| 2-Methylnaphthalene | U | 4.2 | U | 11 |
| 1-Methylnaphthalene | U | 4.0 | U | 11 |
| Biphenyl | U | 3.8 | U | 11 |
| 2,6-Dimethylnaphthalene | U | 3.8 | U | 12 |
| Acenaphthylene | U | 4.0 | U | 12 |
| Acenaphthene | U | 3.6 | U | 11 |
| Dibenzofuran | U | 3.5 | U | 11 |
| Fluorene | U | 3.5 | U | 11 |
| Phenanthrene | U | 3.2 | U | 11 |
| Anthracene | U | 3.2 | U | 11 |
| Carbazole | U | 3.7 | U | 12 |
| Fluoranthene | U | 2.9 | U | 12 |
| Pyrene | U | 2.9 | U | 11 |
| Benzo(a)anthracene | U | 2.5 | U | 11 |
| Chrysene | U | 2.3 | U | 10 |
| Benzo(b)fluoranthene | U | 2.3 | U | 11 |
| Benzo(k)fluoranthene | U | 2.5 | U | 12 |
| Benzo(e)pyrene | U | 2.3 | U | 11 |
| Benzo(a)pyrene | U | 2.6 | U | 13 |
| Indeno(1,2,3-cd)pyrene | U | 2.7 | U | 14 |
| Dibenzo(a,h)anthracene | U | 2.6 | U | 14 |
| Benzo(g,h,i)perylene | U | 2.4 | U | 13 |

COC 04391
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

ERTC 2/19/02

1-8&10-02PAH.xls

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 21, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0641 | 0644 | 0645 |
| **Stop Time** | 1443 | 1445 | 1441 |
| **Run Time (minutes)** | 482 | 481 | 476 |
| **Maximum Concentration ($ug/m^3$)** | 177.65 | 209.0 | 149.21 |
| **Average Concentration ($ug/m^3$)** | 68.16 | 68.69 | 60.09 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/21/02**

| File Name | NYC1111 | NYC1112 | NYC1113 | NYC1114 | NYC1116 | NYC1115 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07508 | A07509 | A07510 | A07511 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, February 23-25, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on February 25**

**Staten Island Landfill:**

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 23 and February 24 at the Staten Island Landfill. There were no significant readings.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples from February 22 through February 24 at Location "L" (northeast side of Stuyvesant High School) and Location "N" (south side of Pier 25). Samples were also collected at Location "R" (northwest side of Stuyvesant High School) on February 23. All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 23 and February 24 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 23 and February 24 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, the North and South Tower excavation areas, and in front of the Banker's Trust Building, showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, February 25, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 23) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-5 and P-6) based on daily average concentrations.

Fresh Kills (Feb 24) - Particulate Monitoring (Dataram)

Nothing of significance reported at one station (P-6) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 22) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
Particulate monitoring was not conducted at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 14.84 ug/$m^3$ with a maximum reading of 70.31 ug/$m^3$.
Station N had an average 11.10 ug/$m^3$ with a maximum reading of 49.86 ug/$m^3$.

NYC / ER (Feb 23) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 13.81 ug/$m^3$ with a maximum reading of 84.43 ug/$m^3$.
Station N had an average 10.65 ug/$m^3$ with a maximum reading of 23.33 ug/$m^3$.
Station R had an average 11.64 ug/$m^3$ with a maximum reading of 40.79 ug/$m^3$.

NYC / ER (Feb 24) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
Particulate monitoring was not conducted at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 16.22 ug/$m^3$ with a maximum reading of 74.52 ug/$m^3$.
Station N had an average 13.76 ug/$m^3$ with a maximum reading of 25.53 ug/$m^3$.

NYC / ER (Feb 22) - Volatile Organics (Mobile Laboratory)

No monitoring conducted due to equipment malfunction.

NYC / ER (Feb 23) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the five samples collected (Washing Tent, Austin Tobin Plaza, North Tower, South Tower, and Bankers Trust).
Note: The sample taken in front of Banker's Trust was a ground level sample at the western edge of the hole.

NYC / ER (Feb 24) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the five samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and Northeast Area [B-3 level]).

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 24, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | N/a | -- | -- | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 3 | -74.198685 | 40.570054 | D078 | N/a | -- | ----- | N/a | N/a | N/a | N/a | N/a | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | -- | -- | -- | 00:00:30 | 1 | 0.0 | 0.1 | -- | -- |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 967 | 08:03 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 16.4 | 418.6 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | N/a | -- | ----- | N/a | N/a | N/a | N/a | N/a | ---- | ---- |

NOTES:

Data was collected only from DataRam Serial Number D079 at Perimeter Location P6.
DataRam Serial Number D076 at Location P2 was failed and no data was collected.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 23, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | N/a | -- | -- | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 3 | -74.198685 | 40.570054 | D078 | N/a | -- | ----- | N/a | N/a | N/a | N/a | N/a | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 910 | 07:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.4 | 143.7 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 970 | 08:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 10.2 | 146.0 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | N/a | -- | ----- | N/a | N/a | N/a | N/a | N/a | ---- | ---- |

NOTES:

Data was collected from DataRam Serial Number D076 at Perimeter Location P2 and D079 at Location P6.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 24, 2002

| Location | L | N | R* |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | - |
| **Start Time** | 0637 | 0639 | - |
| **Stop Time** | 1440 | 1443 | - |
| **Run Time (minutes)** | 483 | 484 | - |
| **Maximum Concentration ($ug/m^3$)** | 74.52 | 25.53 | - |
| **Average Concentration ($ug/m^3$)** | 16.22 | 13.76 | - |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 23, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0707 | 0710 | 0705 |
| **Stop Time** | 1507 | 1509 | 1504 |
| **Run Time (minutes)** | 480 | 479 | 479 |
| **Maximum Concentration ($ug/m^3$)** | 84.43 | 23.33 | 40.79 |
| **Average Concentration ($ug/m^3$)** | 13.81 | 10.65 | 11.64 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 22, 2002

| Location | L | N | R* |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | - |
| **Start Time** | 0632 | 0635 | - |
| **Stop Time** | 1422 | 1425 | - |
| **Run Time (minutes)** | 470 | 470 | - |
| **Maximum Concentration ($ug/m^3$)** | 70.31 | 49.86 | - |
| **Average Concentration ($ug/m^3$)** | 14.84 | 11.10 | - |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/24/02**

| File Name | NYC1137 | NYC1138 | NYC1139 | NYC1140 | NYC1141 | NYC1142 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | NE B-3 |
| | | | Ambient Air | | | |
| Sample Number | | | A07521 | A07522 | A07523 | A07524 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/23/02**

| File Name | NYC1128 | NYC1129 | NYC1130 | NYC1131 | NYC1133 | NYC1132 | NYC1134 |
|---|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower | Bankers Trust |
| Sample Number | | | A07516 | A07517 | A07518 | A07519 | A07520 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL | RL |

**U.S. Environmental Protection Agency (EPA)**
**Daily Summary**
**Tuesday, February 26, 2002**

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 2:45 p.m. on February 26**

**Staten Island Landfill:**

**Air (Particulates)** - EPA used portable monitors to collect samples of particulates on February 22 and February 25 at the Staten Island Landfill. There were no significant readings.

**Metals** - A total of 5 samples were collected on February 6. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 25 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from February 9 through February 17 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from February 9 through February 17 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Dioxin** - A total of 26 samples were collected from February 4 through February 11 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Metals** - A total of 8 samples were collected on January 15 at several locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 25 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 25 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, February 26, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 6) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Feb 22) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-5 and P-6) based on daily average concentrations.

Fresh Kills (Feb 25) - Particulate Monitoring (Dataram)

Nothing of significance reported at two stations (P-5 and P-6) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 4 - 11) - Dioxin (EPA-ORD)

Six (6) 72-hour samples were collected during this period at Park Row (2 samples), Chambers St./West St. (2 samples), and Albany St. (2 samples) at roof top locations.
None of the samples collected were above the EPA Removal Action guideline (based on a 30-year exposure).
**Note**: The analytical results for all of these samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Feb 5) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 8) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 15) - Metals

8 samples collected.
2 samples (Locations D and P) were not collected due to pumps being knocked over from high winds.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 9) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.26 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.24 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.22 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 9) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.61 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 10) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***7.07 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***7.19 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***7.37 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 10) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***20.67 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 11) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***5.87 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.35 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***8.12 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 11) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.14 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 12) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.07 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.52 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***10.66 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 12) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.99 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 13) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***8.68 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.02 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***10.35 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 13) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***23.88 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 14) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.20 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.88 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***12.47 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 14) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***26.79 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 15) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.39 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.65 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***12.17 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 15) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.41 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 16) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***15.86 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***17.33 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***14.93 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65

ug/m$^3$).

NYC / ER (Feb 16) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.57 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 17) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***7.85 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.00 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***9.14 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 17) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.13 ug/m$^3$***. All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 25) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8½ hours.
Station L had an average of 44.37 ug/m$^3$ with a maximum reading of 220.21 ug/m$^3$.
Station N had an average 28.61 ug/m$^3$ with a maximum reading of 62.80 ug/m$^3$.
Station R had an average 31.04 ug/m$^3$ with a maximum reading of 91.35 ug/m$^3$.

NYC / ER (Feb 25) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the five samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/08/02**

| Sample No. | WG7097-1 | | | 06413 | | | 06414 | | | 06415 | | | 06416 | | | 06417 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7056 | | | 6465 | | | 6855 | | | 6045 | | | 5730 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0031 | U | | 0.0029 | U | | 0.0033 | U | | 0.0035 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | 0.0010 | 0.015 | U | | 0.017 | U | | 0.017 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 1234678-HpCDD | U | | 0.10 | U | 0.0006 | 0.014 | U | | 0.015 | U | 0.0010 | 0.015 | U | | 0.017 | U | 0.0010 | 0.017 |
| OCDD | 0.0161 J | | 0.20 | 0.0033 J | | 0.028 | 0.0035 J | | 0.031 | 0.0033 J | | 0.029 | U | | 0.033 | U | 0.0039 | 0.035 |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0031 | U | | 0.0029 | U | | 0.0033 | U | | 0.0035 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 123678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 234678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 123789-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.015 | U | | 0.017 | U | | 0.017 |
| OCDF | U | | 0.20 | U | | 0.028 | U | | 0.031 | U | | 0.035 | U | | 0.033 | U | | 0.035 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0412 | | | 0.0014 | | | 0.0016 | | | 0.0017 | | | 0.0030 | | | 0.0021 | | |

COC# 02/08/02 dioxin

ERTC 2/22/02

B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/08/02**

| Sample No. | 06418 | | | 06419 | | | 06420 | | | 06421 | | | 06422 | | | 06423 | | | 06424 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | Location S | | | Location S | | | Location P | | | Location E | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 5535 | | | 6165 | | | 7440 | | | 7840 | | | 5880 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0036 | U | | 0.0032 | U | | 0.0027 | U | | 0.0026 | U | | 0.0034 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.018 | U | 0.0013 | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | 0.0067 J | | 0.10 |
| 123789-HxCDD | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | 0.0006 J | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.036 | U | 0.0029 | 0.032 | U | | 0.027 | .0017 J | | 0.026 | U | | 0.0034 | U | 0.0242 | 0.20 | U | 0.0110 | 0.20 |
| 2378-TCDF | U | | 0.0036 | U | | 0.0032 | U | | 0.0027 | U | | 0.0026 | U | | 0.0034 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.018 | U | | 0.016 | U | | 0.013 | U | | 0.013 | U | | 0.017 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.036 | U | | 0.032 | U | | 0.027 | U | | 0.026 | U | | 0.0034 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0067 | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | 0.0060 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0007 | | |
| TEQ (ND=1/2) | 0.0033 | | | 0.0018 | | | 0.0014 | | | 0.0016 | | | 0.0017 | | | 0.0393 | | | 0.0388 | | |

COC# 02/08/02 dioxin

Table 1.1 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0090 | | WTC-0091 | | WTC-0085 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4970 | |
| Date Collected | | - | | - | | - | | 02/06/02 | | 02/06/02 | | 02/06/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.25 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Calcium | ICAP | 4.1 | 2.5 | 4.0 | 2.5 | 4.6 | 2.5 | U | 2.5 | U | 2.5 | U | 0.50 |
| Chromium | ICAP | 0.82 | 0.13 | 0.81 | 0.13 | 0.82 | 0.13 | U | 0.13 | 0.16 | 0.13 | U | 0.025 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Iron | ICAP | 0.92 | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.5 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Nickel | ICAP | U | 0.25 | 0.31 | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.025 |
| Sodium | ICAP | 14 | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.5 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |
| Zinc | ICAP | 0.28 | 0.25 | 0.28 | 0.25 | 0.27 | 0.25 | U | 0.25 | U | 0.25 | U | 0.05 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

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Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0086 | | WTC-0087 | | WTC-0088 | | WTC-0089 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 3600 | | 2830 | | 4800 | | 4450 | |
| Date Collected | | 02/06/02 | | 02/06/02 | | 02/06/02 | | 02/06/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 2.5 | 0.35 | U | 0.44 | U | 0.26 | U | 0.28 |
| Antimony | AA-Fur | U | 0.014 | U | 0.018 | U | 0.01 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.014 | U | 0.018 | U | 0.01 | U | 0.011 |
| Barium | ICAP | 0.047 | 0.035 | U | 0.044 | 0.029 | 0.026 | U | 0.028 |
| Beryllium | ICAP | U | 0.014 | U | 0.018 | U | 0.01 | U | 0.011 |
| Cadmium | ICAP | U | 0.035 | U | 0.044 | U | 0.026 | U | 0.028 |
| Calcium | ICAP | 14 | 0.69 | U | 0.88 | 1.2 | 0.52 | 0.57 | 0.56 |
| Chromium | ICAP | U | 0.035 | U | 0.044 | U | 0.026 | U | 0.028 |
| Cobalt | ICAP | U | 0.069 | U | 0.088 | U | 0.052 | U | 0.056 |
| Copper | ICAP | 0.12 | 0.069 | U | 0.088 | U | 0.052 | U | 0.056 |
| Iron | ICAP | 4.4 | 0.17 | 0.51 | 0.22 | 0.76 | 0.13 | 0.40 | 0.14 |
| Lead | AA-Fur | 0.11 | 0.014 | U | 0.018 | 0.021 | 0.01 | 0.013 | 0.011 |
| Magnesium | ICAP | U | 3.5 | U | 4.4 | U | 2.6 | U | 2.8 |
| Manganese | ICAP | 0.10 | 0.035 | U | 0.044 | U | 0.026 | U | 0.028 |
| Nickel | ICAP | U | 0.069 | U | 0.088 | U | 0.052 | U | 0.056 |
| Potassium | ICAP | U | 14 | U | 18 | U | 10 | U | 11 |
| Selenium | AA-Fur | U | 0.014 | U | 0.018 | U | 0.01 | U | 0.011 |
| Silver | ICAP | U | 0.035 | U | 0.044 | U | 0.026 | U | 0.028 |
| Sodium | ICAP | U | 3.5 | U | 4.4 | U | 2.6 | U | 2.8 |
| Thallium | AA-Fur | U | 0.014 | U | 0.018 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.069 | U | 0.088 | U | 0.052 | U | 0.056 |
| Zinc | ICAP | 0.23 | 0.069 | U | 0.088 | 0.093 | 0.052 | U | 0.056 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/05/02**

| Sample No. | WG7092-1 | | | 06401 | | | 06402 | | | 06403 | | | 06404 | | | 06405 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | A-Barclay & West Broadway | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 5625 | | | 6120 | | | 5640 | | | 6858.75 | | | 5865 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0036 | U | | 0.0033 | U | | 0.0035 | U | | 0.0029 | U | | 0.0034 |
| 12378-PeCDD | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 123478-HxCDD | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 123678-HxCDD | 0.0092 J | | 0.10 | U | | 0.018 | U | 0.0018 | 0.016 | U | 0.0017 | 0.018 | U | | 0.015 | U | | 0.017 |
| 123789-HxCDD | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 1234678-HpCDD | 0.0045 J | | 0.10 | U | | 0.018 | U | 0.0009 | 0.016 | U | | 0.018 | U | 0.0010 | 0.015 | U | | 0.017 |
| OCDD | U | 0.0160 | 0.20 | U | 0.0029 | 0.036 | U | 0.0043 | 0.033 | U | | 0.035 | U | | 0.029 | U | | 0.034 |
| 2378-TCDF | U | | 0.020 | U | | 0.0036 | U | | 0.0033 | U | | 0.0035 | U | | 0.0029 | U | | 0.0034 |
| 12378-PeCDF | 0.0026 J | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 23478-PeCDF | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 123478-HxCDF | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 123678-HxCDF | U | 0.0030 | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 234678-HxCDF | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 123789-HxCDF | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 1234678-HpCDF | U | 0.0029 | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.018 | U | | 0.016 | U | | 0.018 | U | | 0.015 | U | | 0.017 |
| OCDF | U | | 0.20 | U | | 0.036 | U | | 0.033 | U | | 0.035 | U | | 0.029 | U | | 0.034 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0092 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0045 | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0026 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0011 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0380 | | | 0.0015 | | | 0.0013 | | | 0.0015 | | | 0.0015 | | | 0.0015 | | |

COC# 02/05/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

ERTC 2/21/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 2/05/02

| Sample No. | 06406 | | | 06407 | | | 06408 | | | 06409 | | | 06410 | | | 06411 | | | 06412 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | Location S | | | Location S | | | Location P | | | Location E | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6750 | | | 3435 | | | 5145 | | | 5610 | | | 5085 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0030 | U | | 0.0058 | U | | 0.0039 | U | | 0.0036 | U | | 0.0039 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | 0.0120 J | | 0.10 |
| 123789-HxCDD | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0007 J | | 0.015 | 0.0014 J | | 0.029 | 0.0009 J | | 0.019 | 0.0013 J | | 0.018 | 0.0011 J | | 0.020 | U | 0.0061 | 0.10 | U | | 0.10 |
| OCDD | U | | 0.030 | U | | 0.058 | U | | 0.039 | U | | 0.036 | U | 0.0042 | 0.0039 | U | | 0.20 | 0.0146 J | | 0.20 |
| 2378-TCDF | U | | 0.0030 | U | | 0.0058 | U | | 0.0039 | U | | 0.0036 | U | | 0.0039 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | 0.0005 | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.015 | U | | 0.029 | U | | 0.019 | U | | 0.018 | U | | 0.020 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.030 | U | | 0.058 | U | | 0.039 | U | | 0.036 | U | | 0.0039 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0120 | | |
| Total HpCDDs | 0.0007 | | | 0.0014 | | | 0.0009 | | | 0.0013 | | | 0.0011 | | | 0.0058 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0012 | | |
| TEQ (ND=1/2) | 0.0011 | | | 0.0019 | | | 0.0019 | | | 0.0014 | | | 0.0015 | | | 0.0396 | | | 0.0399 | | |

COC# 02/05/02 dioxin

2-05-02dioair.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06173 | | 06174 | | 06163 | | 06164 | | 06165 | | 06166 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Field Blank | | Lot Blank | | R(TAGA) | | A-BARCLAY ST. & WEST BROADWAY | | LOC 3A BTWN LOTC 4 + 5 | | B-CHURCH & DEY ST. | |
| Air Volume (L) | | 0 | | | | 4800 | | 4320 | | 4840 | | 4840 | |
| Date Collected | | 01/15/02 | | 01/15/02 | | 01/15/02 | | 01/15/02 | | 01/15/02 | | 01/15/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.64 | 0.60 | 1.2 | 0.60 | 0.13 | 0.10 | 2.3 | 0.10 | 1.5 | 0.12 | 1.0 | 0.12 |
| Antimony | ICAP | 0.09 | 0.08 | 0.36 | 0.08 | U | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 |
| Arsenic | AA-Fur | U | 0.03 | U | 0.03 | U | 0.007 | U | 0.008 | U | 0.007 | U | 0.007 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.10 | 0.11 | 0.07 | 0.09 | 0.07 | 0.096 | 0.07 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 |
| Cadmium | ICAP | U | 0.02 | U | 0.02 | U | 0.003 | U | 0.004 | U | 0.003 | U | 0.003 |
| Calcium | ICAP | 4.9 | 3.5 | 4.3 | 3.5 | 1.7 | 0.70 | 23 | 0.81 | 22 | 0.70 | 12 | 0.70 |
| Chromium | ICAP | 1.2 | 0.04 | 0.73 | 0.04 | 0.02 | 0.01 | U | 0.01 | 0.03 | 0.009 | 0.02 | 0.009 |
| Cobalt | ICAP | U | 0.03 | U | 0.03 | U | 0.007 | 0.01 | 0.01 | 0.01 | 0.007 | U | 0.007 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.092 | 0.18 | 0.10 | 0.15 | 0.09 | 0.14 | 0.09 |
| Iron | ICAP | U | 0.90 | U | 0.90 | 1.4 | 0.19 | 9.3 | 0.21 | 6.9 | 0.19 | 5.6 | 0.19 |
| Lead | AA-Fur | 0.02 | 0.009 | U | 0.009 | 0.02 | 0.002 | 0.15 | 0.002 | 0.14 | 0.002 | 0.07 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 0.69 | 5.4 | 0.80 | 3.2 | 0.70 | 2.6 | 0.70 |
| Manganese | ICAP | U | 0.08 | U | 0.08 | 0.019 | 0.016 | 0.16 | 0.02 | 0.10 | 0.02 | 0.08 | 0.02 |
| Nickel | ICAP | U | 0.06 | U | 0.06 | 0.08 | 0.01 | 0.10 | 0.01 | 0.08 | 0.01 | 0.08 | 0.01 |
| Potassium | ICAP | U | 3.7 | U | 3.7 | U | 0.77 | U | 0.85 | U | 0.76 | U | 0.76 |
| Selenium | AA-Fur | U J | 0.08 | U J | 0.08 | U J | 0.02 | U J | 0.02 | U J | 0.02 | U | 0.015 |
| Silver | ICAP | 0.04 | 0.03 | 0.05 | 0.03 | U | 0.01 | U | 0.006 | U | 0.005 | U | 0.005 |
| Sodium | ICAP | 138 | 3.7 | 144 | 3.7 | U | 0.77 | U | 0.85 | U | 0.76 | U | 0.80 |
| Thallium | ICAP | U | 0.07 | U | 0.07 | U | 0.013 | U | 0.02 | U | 0.01 | U | 0.011 |
| Vanadium | ICAP | U | 0.04 | 0.08 | 0.04 | U | 0.01 | 0.02 | 0.01 | 0.01 | 0.008 | 0.008 | 0.008 |
| Zinc | ICAP | 0.08 | 0.08 | 0.09 | 0.08 | U | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
J denotes the value has been qualified as estimated.
Average Lot Blank and Field Blank concentrations were subtracted from all sample results

Table 1.0 (cont ) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06167 | | 06168 | | 06171 | | 06172 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | B-CHURCH & DEY ST. | | C-LIBERTY ST. & CHURCH ST. | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4730 | | 5020 | | 4260 | | 3750 | |
| Date Collected | | 1/15/02 | | 01/15/02 | | 01/15/02 | | 01/15/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.76 | 0.007 | 0.88 | 0.10 | 0.35 | 0.14 | 0.51 | 0.16 |
| Antimony | ICAP | U | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 |
| Arsenic | AA-Fur | U | 0.007 | U | 0.006 | U | 0.008 | U | 0.009 |
| Barium | ICAP | 0.093 | 0.067 | 0.087 | 0.10 | 0.08 | 0.07 | 0.03 | 0.08 |
| Beryllium | ICAP | U | 0.011 | U | 0.01 | U | 0.01 | U | 0.01 |
| Cadmium | ICAP | U | 0.003 | U | 0.003 | U | 0.004 | U | 0.004 |
| Calcium | ICAP | 8.3 | 0.74 | 9.7 | 0.70 | 3.2 | 0.82 | 5.1 | 0.93 |
| Chromium | ICAP | U | 0.009 | U | 0.01 | U | 0.01 | U | 0.01 |
| Cobalt | ICAP | 0.01 | 0.007 | 0.01 | 0.01 | 0.01 | 0.008 | 0.01 | 0.009 |
| Copper | ICAP | 0.11 | 0.094 | 0.12 | 0.09 | U | 0.10 | U | 0.12 |
| Iron | ICAP | 4.7 | 0.19 | 6.8 | 0.18 | 2.4 | 0.21 | 2.3 | 0.24 |
| Lead | AA-Fur | 0.07 | 0.002 | 0.06 | 0.002 | 0.03 | 0.002 | 0.04 | 0.003 |
| Magnesium | ICAP | 1.7 | 0.70 | 1.7 | 0.70 | 1.1 | 0.78 | 1.4 | 0.88 |
| Manganese | ICAP | 0.07 | 0.02 | 0.10 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 |
| Nickel | ICAP | 0.08 | 0.012 | 0.08 | 0.10 | 0.08 | 0.01 | 0.09 | 0.02 |
| Potassium | ICAP | U | 0.78 | U | 0.73 | U | 0.86 | U | 0.98 |
| Selenium | AA-Fur | U J | 0.016 | U J | 0.02 | U J | 0.02 | U J | 0.02 |
| Silver | ICAP | U | 0.005 | U | 0.005 | U | 0.006 | U | 0.007 |
| Sodium | ICAP | U | 0.78 | U | 0.73 | U | 0.86 | U | 0.98 |
| Thallium | ICAP | U | 0.01 | U | 0.01 | U | 0.015 | U | 0.02 |
| Vanadium | ICAP | 0.009 | 0.008 | U | 0.01 | U | 0.009 | U | 0.01 |
| Zinc | ICAP | U | 0.017 | U | 0.02 | U | 0.02 | U | 0.02 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Lot Blank and Field Blank concentrations were subtracted from all sample results

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 22, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | -- | ---- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 999 | 08:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 11.4 | 110.6 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 998 | 08:19 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 10.0 | 100.6 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |

NOTES:

No data was collected from DataRam Serial Number D075 at Perimeter Location 2, D078 Perimeter Location 3 and D077 Perimeter Location 8 due to a malfunction of the Data Ram instrument.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**February 25, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (sec) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D075 | 1 | -- | ---- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 3 | -74.198685 | 40.570054 | D078 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D076 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 27.4 | 168.4 |
| 6 | -74.207406 | 40.563818 | D079 | 1 | 961 | 08:01 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 38.2 | 559.6 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D077 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |

NOTES:

No data was collected from DataRam Serial Number D075 at Perimeter Location 2, D078 Perimeter Location 3 and D077 Perimeter Location 8 due to a malfunction of the Data Ram instrument.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 25, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0645 | 0648 | 0642 |
| Stop Time | 1509 | 1511 | 1507 |
| Run Time (minutes) | 504 | 503 | 505 |
| Maximum Concentration ($ug/m^3$) | 220.21 | 62.80 | 91.35 |
| Average Concentration ($ug/m^3$) | 44.37 | 28.61 | 31.04 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/25/02**

| File Name | NYC1145 | NYC1146 | NYC1147 | NYC1148 | NYC1150 | NYC1149 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07525 | A07526 | A07528 | A07527 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, February 27, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on February 27**

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 26 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 26 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 26 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, February 27, 2002**

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 26 - 27) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Feb 26) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 68.16 $ug/m^3$ with a maximum reading of 98.77 $ug/m^3$.
Station N had an average 61.18 $ug/m^3$ with a maximum reading of 97.51 $ug/m^3$.
Station R had an average 69.05 $ug/m^3$ with a maximum reading of 233.41 $ug/m^3$.

NYC / ER (Feb 26) - Volatile Organics (Mobile Laboratory)

Aside from two compounds detected at the North Tower, no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk/Soil Sampling

NYC / ER (Dec 19)

5 soil/bulk samples collected from the excavation area at Ground Zero.
Analytical parameters included: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/PCBs, dioxin, metals (including mercury), and cyanide.
1 of the 5 samples contained total PCBs (2.28 ppm) above the EPA residential cleanup guideline of 1 ppm.
The same sample also contained a benzo(a)pyrene equivalent concentration (25.1 ppm) above the EPA Removal Action guidance levels (based on a 30-year exposure) represented as Toxic Equivalency Factors (TEFs) for benzo(a)pyrene.
The sample was below the adjusted EPA Removal Action guidance levels (based on a 1-year exposure) represented as TEFs for benzo(a)pyrene.
All other analytical parameters were either not detected or below applicable EPA Removal Action guidance levels.
Data is not attached.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 26, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0636 | 0640 | 0634 |
| **Stop Time** | 1444 | 1450 | 1439 |
| **Run Time (minutes)** | 488 | 490 | 485 |
| **Maximum Concentration ($ug/m^3$)** | 98.77 | 97.51 | 233.41 |
| **Average Concentration ($ug/m^3$)** | 68.16 | 61.18 | 69.05 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/26/02**

| File Name | NYC1153 | NYC1154 | NYC1155 | NYC1156 | NYC1158 | NYC1157 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07529 | A07531 | A07532 | A07530 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 48 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | 25 | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, February 28, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on February 28**

**Ambient Air Samples:**

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 27 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 27 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOCs.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, February 28, 2002**

Ambient Air Sampling Locations

NYC / ER (Feb 27) - Particulate Monitoring (Dataram)

Particulate measurements were not taken at Stations L, N, and R due to the weather conditions.

NYC / ER (Feb 27) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/27/02**

| File Name | NYC1161 | NYC1162 | NYC1163 | NYC1164 | NYC1166 | NYC1165 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07533 | A07534 | A07536 | A07535 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday-Monday, March 1-4, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:15 p.m. on March 4**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 102 samples taken in and around ground zero from February 16 through February 19. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,274, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside lower Manhattan:**

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on February 28 and March 1 in the direct area of the debris pile at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on February 28 and March 1 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the South Tower and North Tower excavation areas showed no detectable levels of VOC's.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, March 4, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 16, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
Data is not attached (will be included in a future report).

NYC / ER (Feb 17, 0001 - 1144 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location J) was not analyzed due to an equipment malfunction.
Data is not attached (will be included in a future report).

NYC / ER (Feb 17, 1200 - 2253 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 18, 0001 - 0952 hrs)

All 14 samples analyzed were below the TEM AHERA standard.
3 samples (Locations L, J, and F) were not analyzed due to equipment malfunctions.
1 sample (Location C) was not analyzed since the pump was tampered with.

NYC / ER (Feb 18, 1200 - 2247 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 19, 0001 - 1049 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (LocationW) was not analyzed since the pump was tampered with.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 28 - March 4) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Feb 28) - Particulate Monitoring (Dataram)

Particulate measurements were not taken at Stations L, N, and R due to the

weather conditions.

NYC / ER (Feb 28) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 1) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/20/02**
**Sampling Date and Time:** 2/17/02 1200 to 2253

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/17/02 | TTW-00625 | L | 1064 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/17/02 | TTW-00626 | M1 | 1089 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/17/02 | TTW-00627 | M1-Dup | 1098.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/17/02 | TTW-00628 | N | 1054.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00629 | J | 1173.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/17/02 | TTW-00630 | Q | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/17/02 | TTW-00631 | F | 1165.5 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/17/02 | TTW-00632 | A | 1054.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00633 | B | 1204.35 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0043 |
| 02/17/02 | TTW-00634 | C | 1163.65 | Air | 8.92 | 0.003 | 1*** | 0 | 13.33 | 0.0044 |
| 02/17/02 | TTW-00635 | D | 1069.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/17/02 | TTW-00636 | K | 1122.95 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/17/02 | TTW-00637 | K-Dup | 1193.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/17/02 | TTW-00638 | U | 1175.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/17/02 | TTW-00639 | V | 1078 | Air | <7.0 | <0.002 | 1*** | 0 | 13.33 | 0.0048 |
| 02/17/02 | TTW-00640 | S | 1098.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/17/02 | TTW-00641 | E | 1048.95 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00642 | W | 1173.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/21/2002**
**Sampling Date and Time:** **2/18/02 0001 to 0952**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/18/02 | FB021802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/18/02 | TB021802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/18/02 | TTW-00643 | L-Dup | 969.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/18/02 | TTW-00644 | M1 | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/18/02 | TTW-00645 | N | 1009.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/18/02 | TTW-00646 | J-Dup | 972 | Air | 7.64 | 0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/18/02 | TTW-00647 | Q | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/18/02 | TTW-00648 | A | 921.3 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/18/02 | TTW-00649 | B | 1048.95 | Air | 12.74 | 0.005 | 0 | 0 | <13.33 | <0.0049 |
| 02/18/02 | TTW-00650 | D | 1042.2 | Air | <7.0 | <0.003 | 1*** | 0 | 13.33 | 0.0049 |
| 02/18/02 | TTW-00651 | K | 1078.55 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/18/02 | TTW-00652 | U | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/18/02 | TTW-00653 | V | 1044 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/18/02 | TTW-00654 | S | 919.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/18/02 | TTW-00655 | E | 964.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/18/02 | TTW-00656 | W | 1036 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |

*No sample was submitted for Locations L, J , F, and C due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/21/02**
**Sampling Date and Time:** **2/18/02 1200 to 2247**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/18/02 | TTW-00657 | L | 1150.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/18/02 | TTW-00658 | M1 | 1038.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/18/02 | TTW-00659 | N | 1072.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/18/02 | TTW-00660 | N-Dup | 1102.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/18/02 | TTW-00661 | J | 1073.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/18/02 | TTW-00662 | Q | 1011.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/18/02 | TTW-00663 | F | 997.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/18/02 | TTW-00664 | F-Dup | 1111.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/18/02 | TTW-00665 | A | 1126.65 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/18/02 | TTW-00666 | C | 516.60 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0060 |
| 02/18/02 | TTW-00667 | B | 1164.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/18/02 | TTW-00668 | D | 1107.00 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/18/02 | TTW-00669 | K | 1105.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/18/02 | TTW-00670 | U | 943.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/18/02 | TTW-00671 | V | 1015.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/18/02 | TTW-00672 | S | 1042.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/18/02 | TTW-00673 | E | 1087.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/18/02 | TTW-00674 | W | 1040.40 | Air | 22.29 | 0.008 | 1*** | 0 | 11.43 | 0.0042 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-18-02-pm rev1.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/21/2002**
**Sampling Date and Time: 2/19/02 0001 to 1049**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/19/02 | FB021902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/19/02 | TB021902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/19/02 | TTW-00675 | L | 999.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/19/02 | TTW-00676 | M1 | 919.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/19/02 | TTW-00677 | N | 876.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0050 |
| 02/19/02 | TTW-00678 | J | 937.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/19/02 | TTW-00679 | Q | 1013.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/19/02 | TTW-00680 | F | 1026.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/19/02 | TTW-00681 | A | 1047.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/19/02 | TTW-00682 | A-Dup | 1002.70 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/19/02 | TTW-00683 | C | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/19/02 | TTW-00684 | B- | 911.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/19/02 | TTW-00685 | D | 1083.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/19/02 | TTW-00686 | K | 1103.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/19/02 | TTW-00687 | U | 975.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/19/02 | TTW-00688 | V | 1041.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/19/02 | TTW-00689 | V-Dup | 1015.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/19/02 | TTW-00690 | S | 897.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0049 |
| 02/19/02 | TTW-00691 | E | 980.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |

*No sample was submitted for Location W due to pump being tampered with*

**Sampling Locations:**
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D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
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I: SE corner of Wall St. & Broadway
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
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**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/01/02**

| File Name | NYC1177 | NYC1178 | NYC1179 | NYC1180 | NYC1182 | NYC1181 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07541 | A07542 | A07543 | A07544 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 02/28/02**

| File Name | NYC1169 | NYC1170 | NYC1171 | NYC1172 | NYC1174 | NYC1173 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07537 | A07538 | A07539 | A07540 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, March 5, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on March 5**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 190 samples taken in and around ground zero from February 19 through February 25. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,464, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Staten Island Landfill:**

**Air (Asbestos)** - Fifty-eight air samples collected on February 17, February 21 and February 22 were analyzed for asbestos. All samples were below the school re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, March 5, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 16, 1200 - 2400 hrs)

Previously omitted data from March 4 Sampling Situation Report is attached.
All data remains the same.

NYC / ER (Feb 17, 0001 - 1144 hrs)

Previously omitted data from March 4 Sampling Situation Report is attached.
All data remains the same.

NYC / ER (Feb 19, 1200 - 2340 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 20, 0001 - 1122 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 20, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 21, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 21, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 22, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not analyzed due to an equipment malfunction.

NYC / ER (Feb 22, 1200 - 2334 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not analyzed due to an equipment malfunction.

NYC / ER (Feb 23, 0001 - 1200 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
2 samples (Locations F and C) were not analyzed due to equipment malfunctions.
1 sample (Location W) was not analyzed since the pump was tampered with.

NYC / ER (Feb 23, 1200 - 2041 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location K) was not analyzed due to an equipment malfunction.

NYC / ER (Feb 24, 0001 - 1200 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations E and C) were not analyzed due to equipment malfunctions.

NYC / ER (Feb 24)

Results pending.

NYC / ER (Feb 25, 0001 - 1135 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 17, 0710 - 2117 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-14) was not analyzed due to overloading of particulates.

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20)

Results pending.

Fresh Kills (Feb 21, 0746 - 2230 hrs)

All 20 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 22, 0724 - 2119 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-13) was not analyzed due to an equipment malfunction.

Fresh Kills (Feb 23)

Results pending.

Fresh Kills (Feb 24)

Results pending.

Fresh Kills (March 5) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/19/02**
**Sampling Date and Time:** **2/16/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | Structures (#) 0.5μ - 5μ | Structures (#) 5μ | S/mm² | S-f/cc** |
| 02/16/02 | TTW-00590 | L | 1084.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/16/02 | TTW-00591 | L-Dup | 1008 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/16/02 | TTW-00592 | M1 | 1107 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/16/02 | TTW-00593 | N | 1188.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/16/02 | TTW-00594 | J | 1203.6 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/16/02 | TTW-00595 | Q | 1167.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/16/02 | TTW-00596 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/16/02 | TTW-00597 | A | 1211.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/16/02 | TTW-00598 | B | 1120.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/16/02 | TTW-00599 | B-Dup | 1126.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/16/02 | TTW-00600 | C | 1071 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0048 |
| 02/16/02 | TTW-00601 | D | 1137.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/16/02 | TTW-00602 | K | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/16/02 | TTW-00603 | U | 1095.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/16/02 | TTW-00604 | V | 1202.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/16/02 | TTW-00605 | S | 1114.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/16/02 | TTW-00606 | E | 1174.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/16/02 | TTW-00607 | W | 963.9 | Air | 8.92 | 0.004 | 0 | 0 | <11.43 | <0.0046 |

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/19/02**
**Sampling Date and Time:** **2/17/02 0001 to 1144**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc** |
| 02/17/02 | FB021702 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/17/02 | TB021702 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/17/02 | TTW-00608 | L | 1074.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/17/02 | TTW-00609 | M1 | 1069.3 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/17/02 | TTW-00610 | N | 992.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/17/02 | TTW-00611 | N-Dup | 1188.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/17/02 | TTW-00612 | Q | 1117.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/17/02 | TTW-00613 | F | 1072.7 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/17/02 | TTW-00614 | A | 1149.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/17/02 | TTW-00615 | B | 939.75 | Air | <7.0 | <0.003 | 0 | *****1 | 11.43 | 0.0047 |
| 02/17/02 | TTW-00616 | C | 1179.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/17/02 | TTW-00617 | D | 1196.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/17/02 | TTW-00618 | D-Dup | 1051.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00619 | K | 1053.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00620 | U | 945 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/17/02 | TTW-00621 | V | 1123.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/17/02 | TTW-00622 | S | 1000.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/17/02 | TTW-00623 | E | 1046.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/17/02 | TTW-00624 | W | 990.5 | Air | 7.64 | 0.003 | 0 | ***1 | 11.43 | 0.0044 |

*No sample was submitted for Location J due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/22/02**
**Sampling Date and Time:** **2/19/02 1200 to 2340**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/19/02 | TTW-00692 | L | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/19/02 | TTW-00693 | M1 | 1050.60 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/19/02 | TTW-00694 | N | 1085.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/19/02 | TTW-00695 | J | 1098.00 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0047 |
| 02/19/02 | TTW-00696 | Q | 1119.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/19/02 | TTW-00697 | Q-Dup | 1032.30 | Air | 12.74 | 0.005 | 0 | 0 | <11.43 | <0.0043 |
| 02/19/02 | TTW-00698 | F | 1047.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/19/02 | TTW-00699 | A | 1107.00 | Air | 16.56 | 0.006 | 0 | 0 | <13.33 | <0.0046 |
| 02/19/02 | TTW-00700 | B | 1184.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/19/02 | TTW-00701 | B-Dup | 1146.60 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/19/02 | TTW-00702 | C | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/19/02 | TTW-00703 | D | 1090.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/19/02 | TTW-00704 | K | 1180.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/19/02 | TTW-00705 | U | 1126.65 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/19/02 | TTW-00706 | V | 1215.45 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/19/02 | TTW-00707 | S | 1135.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/19/02 | TTW-00708 | E | 1163.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/19/02 | TTW-00709 | W | 1065.90 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.00048 |

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**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-19-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/22/2002**
**Sampling Date and Time:** **2/20/02 0001 to 1122**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/20/02 | FB022002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/20/02 | TB022002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/20/02 | TTW-00710 | L | 924.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/20/02 | TTW-00711 | M1 | 1047.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/20/02 | TTW-00712 | N | 962.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/20/02 | TTW-00713 | J | 1052.65 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/20/02 | TTW-00714 | Q | 1037.85 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/20/02 | TTW-00715 | F | 987.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/20/02 | TTW-00716 | A | 973.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/20/02 | TTW-00717 | B | 920.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/20/02 | TTW-00718 | C | 1039.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/20/02 | TTW-00719 | D | 1036.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/20/02 | TTW-00720 | K | 997.15 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/20/02 | TTW-00721 | U | 980.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/20/02 | TTW-00722 | U-Dup | 961.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/20/02 | TTW-00723 | V | 993.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/20/02 | TTW-00724 | S | 900.95 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0049 |
| 02/20/02 | TTW-00725 | S-Dup | 959.40 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/20/02 | TTW-00726 | E | 916.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/20/02 | TTW-00727 | W | 1193.60 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0043 |

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**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/23/02**
**Sampling Date and Time:** 2/20/02 1200 to 2359

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/20/02 | TTW-00728 | L | 1069.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/20/02 | TTW-00729 | L-Dup | 972 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/20/02 | TTW-00730 | M1 | 1017 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/20/02 | TTW-00731 | M1-Dup | 1155.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/20/02 | TTW-00732 | N | 1110.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/20/02 | TTW-00733 | J | 1128.6 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/20/02 | TTW-00734 | Q | 1103.4 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/20/02 | TTW-00735 | F | 853.2 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0045 |
| 02/20/02 | TTW-00736 | A | 1171.8 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 02/20/02 | TTW-00737 | B | 1074.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/20/02 | TTW-00738 | C | 1150.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/20/02 | TTW-00739 | D | 1060.2 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0048 |
| 02/20/02 | TTW-00740 | K | 980.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/20/02 | TTW-00741 | U | 1011.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/20/02 | TTW-00742 | V | 1155.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/20/02 | TTW-00743 | S | 1137.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/20/02 | TTW-00744 | E | 1117.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/20/02 | TTW-00745 | W | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
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F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-20-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/24/2002**
**Sampling Date and Time:** 2/21/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/21/02 | FB022102 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/21/02 | TB022102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/21/02 | TTW-00746 | L-Dup | 1056.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00747 | M1 | 1016.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/21/02 | TTW-00748 | N | 1164.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/21/02 | TTW-00749 | J | 1107 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/21/02 | TTW-00750 | J-Dup | 964.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/21/02 | TTW-00751 | Q | 1067.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/21/02 | TTW-00752 | F | 971.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/21/02 | TTW-00753 | A | 974.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/21/02 | TTW-00754 | C | 1041.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00755 | C-Dup | 1006.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/21/02 | TTW-00756 | B | 950.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/21/02 | TTW-00757 | D | 1233 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/21/02 | TTW-00758 | K | 1043 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00759 | U | 1090.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/21/02 | TTW-00760 | V | 1063.8 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/21/02 | TTW-00761 | S | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 02/21/02 | TTW-00762 | E | 1058.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00763 | W | 1004.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |

**Sampling Locations:**
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F: Northern median strip of Vesey & West St
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I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/24/02**
**Sampling Date and Time: 2/21/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/21/02 | TTW-00764 | L | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/21/02 | TTW-00765 | M1 | 1011.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/21/02 | TTW-00766 | N | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0046 |
| 02/21/02 | TTW-00767 | J | 1103.4 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 02/21/02 | TTW-00768 | Q | 1108.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/21/02 | TTW-00769 | F | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/21/02 | TTW-00770 | A | 1121.4 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0046 |
| 02/21/02 | TTW-00771 | B | 1216.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/21/02 | TTW-00772 | C | 1047.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00773 | D | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/21/02 | TTW-00774 | D-Dup | 1105.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/21/02 | TTW-00775 | K | 1078.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/21/02 | TTW-00776 | K-Dup | 974.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/21/02 | TTW-00777 | U | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/21/02 | TTW-00778 | V | 1139.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/21/02 | TTW-00779 | S | 1040.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/21/02 | TTW-00780 | E | 1085.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/21/02 | TTW-00781 | W | 1296 | Air | 22.29 | 0.007 | 0 | 0 | <16.00 | <0.0048 |

**Sampling Locations:**
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C1: SW corner of Broadway & Liberty St.
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H: South side of Chase Manhattan Plaza at Pine St.
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
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**** Extremely low sample volume collected
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/24/2002**
**Sampling Date and Time:** **2/22/01 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/nm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/22/01 | FB022202 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/22/01 | TB022202 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/22/01 | TTW-00782 | L | 876.6 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0044 |
| 02/22/01 | TTW-00783 | M1 | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/22/01 | TTW-00784 | N | 963 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/22/01 | TTW-00785 | J | 1022 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/22/01 | TTW-00786 | Q | 1139.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/22/01 | TTW-00787 | F-Dup | 889.2 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0043 |
| 02/22/01 | TTW-00788 | A | 956.45 | Air | 7.64 | 0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/22/01 | TTW-00789 | A-Dup | 969.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/22/01 | TTW-00790 | B | 957.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/22/01 | TTW-00791 | C | 1049.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/22/01 | TTW-00792 | D | 1078.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/01 | TTW-00793 | K | 1047.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/22/01 | TTW-00794 | U | 1074.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/01 | TTW-00795 | V | 995.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/22/01 | TTW-00796 | S | 923.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/22/01 | TTW-00797 | E | 973.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/22/01 | TTW-00798 | W | 1074.6 | Air | 16.56 | 0.006 | 0 | 0 | <13.33 | <0.0048 |

*No sample for Location F due to Battery Failure*

**Sampling Locations:**
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/25/02**
**Sampling Date and Time:** **2/22/02 1200 to 2334**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/22/02 | TTW-00799 | L | 1080 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/02 | TTW-00800 | M1 | 1117.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/22/02 | TTW-00801 | N | 1150.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/22/02 | TTW-00802 | N-Dup | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/22/02 | TTW-00803 | J | 1067.4 | Air | 14.01 | 0.005 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/02 | TTW-00804 | Q | 1214.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/22/02 | TTW-00805 | Q-Dup | 1128.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/22/02 | TTW-00806 | A | 1116 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0046 |
| 02/22/02 | TTW-00807 | B | 1078.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/02 | TTW-00808 | C | 999 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/22/02 | TTW-00809 | D | 1126.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/22/02 | TTW-00810 | K | 1024.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/22/02 | TTW-00811 | U | 1144.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/22/02 | TTW-00812 | V | 1109.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/22/02 | TTW-00813 | S | 1079.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/22/02 | TTW-00814 | E | 1049.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/22/02 | TTW-00815 | W | 1026 | Air | 19.11 | 0.007 | 0 | 0 | <13.33 | <0.0050 |

*No sample for Location F due to Battery Failure*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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**Key:**
* Some sample volume (liters) is below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
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**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/25/2002**
**Sampling Date and Time:** **2/23/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/23/02 | FB022302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/23/02 | TB022302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/23/02 | TTW-00816 | L | 1080 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/23/02 | TTW-00817 | M1 | 928.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/23/02 | TTW-00818 | N | 980 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/23/02 | TTW-00819 | J | 979.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/23/02 | TTW-00820 | Q | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/23/02 | TTW-00821 | A | 973.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/23/02 | TTW-00822 | B | 1094.4 | Air | <7.0 | <0.002 | ***2 | 0 | 26.67 | 0.0094 |
| 02/23/02 | TTW-00823 | D | 1296 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0040 |
| 02/23/02 | TTW-00824 | K | 975.6 | Air | NA[1] | NA[1] | 0 | 0 | <11.43 | <0.0045 |
| 02/23/02 | TTW-00825 | V | 1056.35 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/23/02 | TTW-00826 | U | 954 | Air | <7.0 | <0.003 | ***1 | 0 | 11.43 | 0.0046 |
| 02/23/02 | TTW-00827 | S | 1002.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/23/02 | TTW-00828 | S-Dup | 957.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 02/23/02 | TTW-00829 | E | 478.8 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0064 |
| 02/23/02 | TTW-00830 | E-Dup | 993.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |

*No sample for Locations F, C, and W due to Battery Failure*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/26/02**
**Sampling Date and Time:** **2/23/02 1200 to 2041**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 02/23/02 | TTW-00831 | L | 1032 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/23/02 | TTW-00832 | M1 | 970 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/23/02 | TTW-00833 | M1-Dup | 1002 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/23/02 | TTW-00834 | N | 678 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0045 |
| 02/23/02 | TTW-00835 | J | 1008 | Air | <7.0 | <0.003 | ***2 | 0 | 22.86 | 0.0087 |
| 02/23/02 | TTW-00836 | Q | 930 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/23/02 | TTW-00837 | F | 896 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0049 |
| 02/23/02 | TTW-00838 | A | 1042 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/23/02 | TTW-00839 | B | 1004 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/23/02 | TTW-00840 | C | 1033.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/23/02 | TTW-00841 | D | 752 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0046 |
| 02/23/02 | TTW-00842 | D-Dup | 932 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/23/02 | TTW-00843 | U | 928.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/23/02 | TTW-00844 | V | 923.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/23/02 | TTW-00845 | S | 928 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/23/02 | TTW-00846 | E | 621.3 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0050 |
| 02/23/02 | TTW-00847 | W | 930 | Air | 21.66 | 0.009 | 0 | 0 | <11.43 | <0.0047 |

*No sample for Location K due to Battery Failure*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 2/24/02 0001 to 1200

**Data Validation Date: 02/25/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/24/02 | FB022402 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/24/02 | TB022402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/24/02 | TTW-00848 | L | 938 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/24/02 | TTW-00849 | M1 | 816 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0047 |
| 02/24/02 | TTW-00850 | N | 924 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/24/02 | TTW-00851 | J | 1028 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/24/02 | TTW-00852 | Q | 1044 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/24/02 | TTW-00853 | F | 882 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0044 |
| 02/24/02 | TTW-00854 | A | 845.5 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0046 |
| 02/24/02 | TTW-00855 | A-Dup | 524 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0059 |
| 02/24/02 | TTW-00856 | B | 910 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/24/02 | TTW-00857 | D | 860 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0045 |
| 02/24/02 | TTW-00858 | K | 967.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/24/02 | TTW-00859 | K-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/24/02 | TTW-00860 | V | 774 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0044 |
| 02/24/02 | TTW-00861 | U | 541.8 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 02/24/02 | TTW-00862 | S | 940 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/24/02 | TTW-00863 | W | 1020 | Air | 12.10 | 0.005 | 0 | 0 | <11.43 | <0.0043 |

*No sample for Locations E and C due to Pump Fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
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**** Extremely low sample volume collected
***** Amosite
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NA[2] - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/27/2002**
**Sampling Date and Time:** 2/25/02 0001 to 1135

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/25/02 | FB022502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/25/02 | TB022502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/25/02 | TTW-00881 | L | 1355.25 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/25/02 | TTW-00882 | M1 | 1000 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/25/02 | TTW-00883 | N | 818 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0054 |
| 02/25/02 | TTW-00884 | J | 1142.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/25/02 | TTW-00885 | J-Dup | 647.4 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0053 |
| 02/25/02 | TTW-00886 | Q | 1182.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/25/02 | TTW-00887 | F | 1101.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/25/02 | TTW-00888 | A | 1030 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/25/02 | TTW-00889 | B | 1123.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/25/02 | TTW-00890 | C | 1017.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/25/02 | TTW-00891 | D | 1076.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/25/02 | TTW-00892 | K | 1071.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/25/02 | TTW-00893 | U | 942.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0054 |
| 02/25/02 | TTW-00894 | V | 1011.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/25/02 | TTW-00895 | S | 1026 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/25/02 | TTW-00896 | E | 1041.3 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/25/02 | TTW-00897 | E-Dup | 1142 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/25/02 | TTW-00898 | W | 1020 | Air | 17.20 | 0.006 | 0 | 0 | <11.43 | <0.0043 |

**Sampling Locations:**
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R: TAGA Bus Location
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T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-25-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 2/17/02 0710 to 2117

**Data Validation Date: 02/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/17/02 | LF2889 | P-1 | 1356.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/17/02 | LF2890 | P-2 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/17/02 | LF2891 | P-3 | 1361.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/17/02 | LF2892 | P-4 | 1384.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/17/02 | LF2893 | P-5 | 1245.05 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/17/02 | LF2894 | P-6 | 980.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/17/02 | LF2895 | P-7 | 1146.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/17/02 | LF2896 | P-8 | 1304.55 | Air | <7.0 | <0.002 | 1*** | 0 | 15.75 | 0.0046 |
| 02/17/02 | LF2897 | W-11 | 1046.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/17/02 | LF2898 | W-12A | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/17/02 | LF2899 | W-12B | 1344.00 | Air | 15.29 | 0.004 | 1*** | 0 | 15.75 | 0.0045 |
| 02/17/02 | LF2900 | B-13 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/17/02 | LF2901 | B-14 | 1322.00 | Air | <7.0 | <0.002 | NA(1) | NA(1) | NA(1) | NA(1) |
| 02/17/02 | LF2902 | T-15 | 1728.00 | Air | NA(1) | NA(1) | 0 | 0 | <19.69 | <0.0044 |
| 02/17/02 | LF2903 | T-16 | 1440.00 | Air | <7.0 | <0.002 | 1*** | 1**** | 31.50 | 0.0084 |
| 02/17/02 | LF2904 | O-17 | 1335.75 | Air | <7.0 | <0.002 | 1*** | 0 | 15.75 | 0.0045 |
| 02/17/02 | LF2905 | O-18 | 1179.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0051 |
| 02/17/02 | LF2906 | O-19 | 1343.55 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/17/02 | LF2907 | MPHS-20 | 1310.00 | Air | <7.0 | <0.002 | 2*** | 0 | 31.50 | 0.0093 |
| 02/17/02 | LF2908 | P-1D | 1340.00 | Air | <7.0 | <0.002 | 1*** | 0 | 15.75 | 0.0045 |
| 02/17/02 | LF2909 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/17/02 | LF2910 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** SIructure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-17-02-Revised.xls

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 2/21/02 0746 to 2230

Data Validation Date: 02/24/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/21/02 | LF02978 | P-1 | 1404.00 | Air | 7.64 | 0.002 | ***1 | 0 | 15.75 | 0.0043 |
| 02/21/02 | LF02979 | P-2 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/21/02 | LF02980 | P-3 | 1355.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/21/02 | LF02981 | P-4 | 1382.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/21/02 | LF02982 | P-5 | 1388.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/21/02 | LF02983 | P-6 | 1208.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/21/02 | LF02984 | P-7 | 1412.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/21/02 | LF02985 | P-8 | 1216.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/21/02 | LF02986 | W-11 | 1404.00 | Air | 26.75 | 0.007 | ***1 | 0 | 15.75 | 0.0043 |
| 02/21/02 | LF02987 | W-12A | 1204.35 | Air | 19.11 | 0.006 | ***1 | 0 | 13.12 | 0.0042 |
| 02/21/02 | LF02988 | W-12B | 1440.00 | Air | <7.0 | <0.002 | ***2 | 0 | 31.50 | 0.0084 |
| 02/21/02 | LF02989 | B-13 | 1388.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/21/02 | LF02990 | B-14 | 1336.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/21/02 | LF02991 | T-15 | 1440.00 | Air | 15.29 | 0.004 | 0 | 0 | <15.75 | <0.0042 |
| 02/21/02 | LF02992 | T-16 | 1440.00 | Air | 13.38 | 0.004 | 0 | 0 | <15.75 | <0.0042 |
| 02/21/02 | LF02993 | O-17 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/21/02 | LF02994 | O-18 | 1258.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/21/02 | LF02995 | O-19 | 1360.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/21/02 | LF02996 | MPHS-20 | 1382.00 | Air | <7.0 | <0.002 | 0 | ***1 | 15.75 | 0.0044 |
| 02/21/02 | LF02997 | P-1 Duplicate | 1440.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/21/02 | LF02998 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/21/02 | LF02999 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-21-02 rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/22/02 0724 to 2119**

**Data Validation Date: 02/25/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/22/02 | LF03000 | P-1 | 1256.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0048 |
| 02/22/02 | LF03001 | P-2 | 1404.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0043 |
| 02/22/02 | LF03002 | P-3 | 1416.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/22/02 | LF03003 | P-4 | 1346.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/22/02 | LF03004 | P-5 | 1398.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/22/02 | LF03005 | P-6 | 1156.35 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/22/02 | LF03006 | P-7 | 1230.43 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/22/02 | LF03007 | P-8 | 1226.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/22/02 | LF03008 | W-11 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/22/02 | LF03009 | W-12A | 1259.70 | Air | 17.83 | 0.005 | 0 | 0 | <15.75 | <0.0048 |
| 02/22/02 | LF03010 | W-12B | 1362.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 02/22/02 | LF03012 | B-14 | 1179.90 | Air | <7.0 | <0.002 | 0 | ***1 | 13.12 | 0.0043 |
| 02/22/02 | LF03013 | T-15 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/22/02 | LF03014 | T-16 | 1422.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/22/02 | LF03015 | O-17 | 1422.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/22/02 | LF03016 | O-18 | 1198.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/22/02 | LF03017 | O-19 | 1292.85 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/22/02 | LF03018 | MPHS-20 | 1258.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0048 |
| 02/22/02 | LF03019 | P-1 Duplicate | 1349.40 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0045 |
| 02/22/02 | LF03020 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/22/02 | LF03021 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No sample for Location B- 13 (Sample LF03011) due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-22-02.xls

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, March 6, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:00 p.m. on March 6**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 53 samples taken in and around ground zero on February 26 and February 27. EPA also sampled for asbestos at two additional lower Manhattan locations from February 14 through February 20, and on February 22. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,533, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside Lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island) from February 14 through February 20, and on February 22. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Twenty air samples collected on February 26 were analyzed for asbestos. All

samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on February 28 and March 1 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**$PM_{2.5}$** - Monitoring for fine particulate matter (particles less than 2.5 micrometers in diameter) was conducted from February 18 through March 1 at Chambers & West Streets, Park Row, and Wall Street. All 24-hour averages were below the National Ambient Air Quality Standard (NAAQS) of 65 ug/$m^3$ for all stations. These results were also less than 40 ug/$m^3$, a level on the EPA Air Quality Index indicating that air quality is unhealthy for sensitive populations (e.g., those with respiratory illnesses).

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted from February 18 through March 1 at a location on Wall Street. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from March 3 through March 5 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from March 3 through March 5 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, March 6, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 AM)

Results pending.

NYC / ER (Feb 26, 0001 - 0946 hrs)

All 13 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 26, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Feb 27, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location E) was not analyzed due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20)

Results pending.

Fresh Kills (Feb 23)

Results pending.

Fresh Kills (Feb 24)

Results pending.

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 26)

All 20 samples analyzed were below the TEM AHERA standard.

Ambient Air Sampling Locations

NYC / ER (Feb 14 - 20) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 49 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 21) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Feb 22) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 18) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***6.46 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.53 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***7.42 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 18) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.82 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 19) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***13.57 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***17.76 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***15.73 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 19) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***33.59 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 20) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***17.39 ug/m³***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***19.04 ug/m³***.
Wall Street - 24-hour average concentrations for this period was ***19.57 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m³).

NYC / ER (Feb 20) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***35.62 ug/m³***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m³).

NYC / ER (Feb 21) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***15.57 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***15.41 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***15.33 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 21) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***24.28 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 22) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.51 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***10.92 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***10.64 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 22) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***17.67 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 23) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.49 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***12.59 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***10.81 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 23) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.48 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 24) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***10.32 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***11.37 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***11.27 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 24) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***19.08 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 25) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***11.63 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***13.18 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***12.99 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 25) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***25.40 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 26) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***16.80 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***18.05 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***17.54 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 26) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***36.22 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$

(150 ug/m$^3$).

NYC / ER (Feb 27) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.06 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***8.45 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***8.47 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 27) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***16.59 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 28) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***9.26 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***9.13 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***8.80 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Feb 28) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***18.87 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Mar 1) - Particulate Monitoring (TEOM $PM_{2.5}$)

Park Row (Site 1) - 24-hr average concentration for this period was ***15.82 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***15.56 ug/m$^3$***.
Wall Street - 24-hour average concentrations for this period was ***16.61 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{2.5}$ (65 ug/m$^3$).

NYC / ER (Mar 1) - Particulate Monitoring (TEOM $PM_{10}$)

Wall Street - 24-hour average concentrations for this period was ***32.29 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 28) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 6.94 ug/$m^3$ with a maximum reading of 40.19 ug/$m^3$.
Station N had an average 5.75 ug/$m^3$ with a maximum reading of 178.27 ug/$m^3$.
Station R had an average 3.70 ug/$m^3$ with a maximum reading of 28.21 ug/$m^3$.

NYC / ER (Mar 1) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 25.22 ug/$m^3$ with a maximum reading of 80.77 ug/$m^3$.
Station N had an average 17.78 ug/$m^3$ with a maximum reading of 30.96 ug/$m^3$.
Station R had an average 18.72 ug/$m^3$ with a maximum reading of 39.55 ug/$m^3$.

NYC / ER (Mar 3) - Particulate Monitoring (Dataram)

Particulate measurements were not taken at Stations L, N, and R due to the weather conditions.

NYC / ER (Mar 4) - Particulate Monitoring (Dataram)

Particulate measurements were not taken at Stations L, N, and R due to equipment malfunctions.

NYC / ER (Mar 3) - Volatile Organics (Mobile Laboratory)

Aside from a few compounds detected at one location (Austin Tobin Plaza), no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 4) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 5) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

NYC / ER (Feb 15) - Asbestos

8 bulk asbestos samples collected from the volleyball area at Pier 25.
Asbestos was not detected in any of these samples.

Fresh Kills (Feb 1) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Feb 8) - Asbestos

5 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Feb 12) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Feb 16) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Mar 1) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was detected in one sample at 1.2 % amosite at the barge area (B-14).
Asbestos was either not detected or at less than 1% chrysotile or 1% amosite in all of the other samples.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** 2/26/02 0001 to 0946

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/26/02 | FB022602 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/26/02 | TB022602 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/26/02 | TTW-00913 | L | 500 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0061 |
| 02/26/02 | TTW-00914 | M1 | 973.05 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0052 |
| 02/26/02 | TTW-00915 | N | 1120 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/26/02 | TTW-00916 | N-Dup | 811.2 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0047 |
| 02/26/02 | TTW-00917 | J | 950 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/26/02 | TTW-00918 | Q | 1154 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/26/02 | TTW-00919 | F | 1064 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00920 | A | 994 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/26/02 | TTW-00921 | B | 908 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 02/26/02 | TTW-00922 | C | 850.2 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0045 |
| 02/26/02 | TTW-00923 | D | 1004 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/26/02 | TTW-00924 | K | 1090.05 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/26/02 | TTW-00925 | K-Dup | 1048 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | TTW-00926 | U | 995.4 | Air | 8.92 | 0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/26/02 | TTW-00927 | V | 1025.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/26/02 | TTW-00928 | S | 840.6 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0045 |
| 02/26/02 | TTW-00929 | E | 923.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0047 |
| 02/26/02 | TTW-00930 | W | 1002.6 | Air | 30.57 | 0.012 | 0 | 0 | <11.25 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-02-26-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** 2/26/02 1200 to 2359

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S-f/cc** |
| 02/26/02 | TTW-00931 | L | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00932 | M1 | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00933 | N | 943.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/26/02 | TTW-00934 | J | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00935 | Q | 1044 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | TTW-00936 | F | 1108.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/26/02 | TTW-00937 | A | 1080 | Air | <7.0 | <0.003 | 0 | ***1 | 13.12 | 0.0047 |
| 02/26/02 | TTW-00938 | B | 1080 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00939 | C | 1044 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | TTW-00940 | C-Dup | 1152 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/26/02 | TTW-00941 | D | 1038 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/26/02 | TTW-00942 | K | 1074 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00943 | U | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00944 | V | 1059 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | TTW-00945 | S | 1063.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | TTW-00946 | E | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00947 | E-Dup | 1080 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | TTW-00948 | W | 1080 | Air | 25.48 | 0.009 | 0 | 0 | <13.12 | <0.0047 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/03/2002**
**Sampling Date and Time:** 2/27/02 0001 to 1200

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 02/27/02 | FB022702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/27/02 | TB022702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/27/02 | TTW-00949 | L | 1063.3 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/27/02 | TTW-00950 | M1 | 1046.1 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/27/02 | TTW-00951 | N | 1051.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/27/02 | TTW-00952 | J | 1103.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/27/02 | TTW-00953 | Q | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/27/02 | TTW-00954 | Q-Dup | 1107.15 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/27/02 | TTW-00955 | F | 1052.7 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/27/02 | TTW-00956 | A | 1036.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/27/02 | TTW-00957 | B | 1188 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/27/02 | TTW-00958 | C | 1082.9 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/27/02 | TTW-00959 | D | 1062.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/27/02 | TTW-00960 | K | 1097.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/27/02 | TTW-00961 | U | 1168.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/27/02 | TTW-00962 | U-Dup | 1126.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/27/02 | TTW-00963 | V | 1019.7 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 02/27/02 | TTW-00964 | S | 1009.05 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/27/02 | TTW-00965 | W | 1037.85 | Air | 10.19 | 0.004 | 0 | 0 | <13.12 | <0.0049 |

*No sample taken for Location E, due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/26/02 0734 to 2140**

**Data Validation Date: 03/1/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( A:ERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/26/02 | LF03088 | P-1 | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03089 | P-2 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/23/02 | LF03090 | P-3 | 1088.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/26/02 | LF03091 | P-4 | 1080.00 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0047 |
| 02/26/02 | LF03092 | P-5 | 1008.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/26/02 | LF03093 | P-6 | 1044.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | LF03094 | P-7 | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03095 | P-8 | 1044.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | LF03096 | W-11 | 1008.00 | Air | 11.46 | 0.004 | 0 | 0 | <11.25 | <0.0043 |
| 02/26/02 | LF03097 | W-12A | 1074.00 | Air | 26.75 | 0.010 | ***2 | 0 | 26.25 | 0.0094 |
| 02/26/02 | LF03098 | W-12B | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03099 | B-13 | 1080.00 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03100 | B-14 | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03101 | T-15 | 1080.00 | Air | 15.29 | 0.005 | ***1 | 0 | 13.12 | 0.0047 |
| 02/26/02 | LF03102 | T-16 | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03103 | O-17 | 984.55 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/26/02 | LF03104 | O-18 | 1140.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/26/02 | LF03105 | O-19 | 1080.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/26/02 | LF03106 | MPHS-20 | 1057.65 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/26/02 | LF03107 | P-5 Dup | 1008.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/26/02 | LF03108 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/26/02 | LF03109 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-26-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/19/02**
**Sampling Date and Time:** 2/14/02 1200 to 2242

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/14/02 | 7093-18-0140 | Park Row | 1164 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/14/02 | 7093-19-0140 | Chambers Street | 1254 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/14/02 | 7093-15-0138 | I.S. 143 | 1212 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/14/02 | 7094-09-0128 | P.S. 154 (Bronx) | 1284 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/14/02 | 7096-12-0134 | P.S. 199 (Queens) | 1266 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/14/02 | 7095-98-0134 | P.S. 274(Brooklyn) | 1010 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/14/02 | 7097-18-0131 | P.S. 44 (S.I) | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/20/02**
**Sampling Date and Time:** 2/15/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 02/15/02 | 7093-18-0141 | Park Row | 1256 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/15/02 | 7093-19-0141 | Chambers Street | 1156 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/15/02 | 7093-15-0139 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/15/02 | 7094-09-0129 | P.S. 154 (Bronx) | 1418 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/15/02 | 7096-12-0135 | P.S. 199 (Queens) | 1168 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/15/02 | 7095-98-0135 | P.S. 274 (Brooklyn) | 1412 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/15/02 | 7097-18-0132 | P.S. 44 (SI) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable



**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/21/02**
**Sampling Date and Time: 2/17/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc* |
| 02/17/02 | 7093-18-0143 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/17/02 | 7093-19-0143 | Chambers Street | 1164 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/17/02 | 7093-15-0141 | I.S. 143 Manhattan | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/17/02 | 7094-09-0131 | P.S. 154 (Bronx) | 1372 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/17/02 | 7096-12-0137 | P.S. 199 (Queens) | 1246 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/17/02 | 7095-98-0137 | P.S. 274 (Brooklyn) | 1388 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/17/02 | 7097-18-0134 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/18/02 1200 to 2312**

**Data Validation Date: 02/24/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/18/02 | 7093-18-0144 | Park Row | 1182 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/18/02 | 7093-19-0144 | Chambers Street | 1294 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/18/02 | 7093-15-0142 | I.S. 143 Manhattan | 1154 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/18/02 | 7094-09-0132 | P.S. 154 (Bronx) | 1302 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/18/02 | 7096-12-0138 | P.S. 199 (Queens) | 1346 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/18/02 | 7095-98-0138 | P.S. 274 (Brooklyn) | 884 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0044 |
| 02/18/02 | 7097-18-0135 | P.S. 44 (S I) | 1104 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

***NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94***
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/19/02 1200 to 2400**

**Data Validation Date: 02/24/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 02/19/02 | 7093-18-0145 | Park Row | 1266 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/19/02 | 7093-19-0145 | Chambers Street | 1156 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/19/02 | 7093-15-0143 | I.S. 143 Manhattan | 1420 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/19/02 | 7094-09-0133 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/19/02 | 7096-12-0139 | P.S. 199 (Queens) | 1226 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/19/02 | 7095-98-0139 | P.S. 274 (Brooklyn) | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/19/02 | 7097-18-0136 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/20/02 1200 to 2331**

**Data Validation Date: 02/25/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/20/02 | 7093-18-0146 | Park Row | 1166 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 02/20/02 | 7093-19-0146 | Chambers Street | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/20/02 | 7093-15-0144 | I.S. 143 Manhattan | 1156 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/20/02 | 7094-09-0134 | P.S. 154 (Bronx) | 1324 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/20/02 | 7096-12-0140 | P.S. 199 (Queens) | 1358 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/20/02 | 7095-98-0140 | P.S. 274 (Brooklyn) | 940 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/20/02 | 7097-18-0137 | P.S. 44 (S I) | 1156 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |

Key:
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended l/ml for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/27/02**
**Sampling Date and Time:** 2/22/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/22/02 | 7093-18-0148 | Park Row | 1416 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/22/02 | 7093-19-0148 | Chambers Street | 1234 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/22/02 | 7093-15-0146 | I.S. 143 Manhattan | 1356 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/22/02 | 7094-09-0136 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/22/02 | 7096-12-0142 | P.S. 199 (Queens) | 1436 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/22/02 | 7095-98-0142 | P.S. 274 (Brooklyn) | 1198 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/22/02 | 7097-18-0139 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 1, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0644 | 0646 | 0641 |
| **Stop Time** | 1444 | 1446 | 1441 |
| **Run Time (minutes)** | 480 | 480 | 480 |
| **Maximum Concentration ($ug/m^3$)** | 80.77 | 30.96 | 39.55 |
| **Average Concentration ($ug/m^3$)** | 25.22 | 17.78 | 18.72 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: February 28, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0639 | 0641 | 0636 |
| **Stop Time** | 1440 | 1442 | 1438 |
| **Run Time (minutes)** | 481 | 481 | 482 |
| **Maximum Concentration ($ug/m^3$)** | 40.19 | 178.27 | 28.21 |
| **Average Concentration ($ug/m^3$)** | 6.94 | 5.75 | 3.70 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/05/02**

| File Name | NYC1210 | NYC1211 | NYC1212 | NYC1213 | NYC1215 | NYC1214 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07558 | A07559 | A07561 | A07560 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/04/02**

| File Name | NYC1202 | NYC1203 | NYC1204 | NYC1205 | NYC1207 | NYC1206 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07553 | A07554 | A07555 | A07556 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/03/02**

| File Name | NYC1193 | NYC1194 | NYC1195 | NYC1196 | NYC1199 | NYC1198 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07549 | A07550 | A07555 | A07552 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | **440** | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | **480** | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | **120** | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | **41** | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date : 2/1/02**

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/01/02 | 05941 | B-14 | Soil | <1% Chrysotile | 6% Cellulose<br>4% Fiber Glass | 90% Other |
| 02/01/02 | 05942 | B-14 | Soil | None | 20% Cellulose<br>10% Fiber Glass | 70% Other |
| 02/01/02 | 05943 | B-13 | Soil | None | 10% Cellulose<br>7% Fiber Glass | 83% Other |
| 02/01/02 | 05944 | B-13 | Soil | None | 12% Cellulose<br>8% Fiber Glass | 80% Other |
| 02/01/02 | 05945 | LF Area D | Soil | None | 10% Cellulose<br>7% Fiber Glass | 83% Other |
| 02/01/02 | 05946 | LF Area D | Soil | None | 10% Cellulose<br>5% Fiber Glass | 85% Other |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/12/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/12/02 | 05961 | B-13 | Soil | None | 10% Cellulose | 75% Other |
| | | | | | 15% Fiber Glass | |
| 02/12/02 | 05962 | B-13 | Soil | None | 10% Cellulose | 75% Other |
| | | | | | 15% Fiber Glass | |
| 02/12/02 | 05963 | B-14 | Soil | <1% Chrysotile | 15% Cellulose | 70% Other |
| | | | | | 15% Fiber Glass | |
| 02/12/02 | 05964 | B-14 | Soil | <1% Chrysotile | 15% Cellulose | 65% Other |
| | | | | | 20% Fiber Glass | |
| 02/12/02 | 05965 | LF-AREA D Sifting 3 | Soil | None | 20% Cellulose | 60% Other |
| | | | | | 20% Fiber Glass | |
| 02/12/02 | 05966 | LF - Bldg 6 Sifting 7 | Soil | None | 15% Cellulose | 70% Other |
| | | | | | 15% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC NYC**
**Sampling Date :** 2/15/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/15/02 | P25-1N | Pier 25 | Soil | None | 2% Cellulose | 80% Quartz<br>18% Other |
| 02/15/02 | P25-1S | Pier 25 | Soil | None | <1% Cellulose | 85% Quartz<br>15% Other |
| 02/15/02 | P25-2N | Pier 25 | Soil | None | 2% Cellulose | 85% Quartz<br>13% Other |
| 02/15/02 | P25-2S | Pier 25 | Soil | None | <1% Cellulose | 90% Quartz<br>10% Other |
| 02/15/02 | P25-3N | Pier 25 | Soil | None | <1% Cellulose | 85% Quartz<br>15% Other |
| 02/15/02 | P25-3S | Pier 25 | Soil | None | 2% Cellulose | 80% Quartz<br>18% Other |
| 02/15/02 | P25-CPA1 | Pier 25 | Soil | None | <1% Cellulose | 85% Quartz<br>15% Other |
| 02/15/02 | P25-CPA2 | Pier 25 | Soil | None | <1% Cellulose | 85% Quartz<br>15% Other |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/16/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/16/02 | 05967 | B-13 | Soil | None | 3% Cellulose | 95% Other |
| | | | | | 2% Fiber Glass | |
| 02/16/02 | A05968 | WTC-SILF2.15.02 | Soil | None | 7% Cellulose | 90% Other |
| | | | | | 3% Fiber Glass | |
| 02/16/02 | 05969 | B-14 | Soil | None | 6% Cellulose | 92% Other |
| | | | | | 2% Fiber Glass | |
| 02/16/02 | 05970 | B-14 | Soil | None | 8% Cellulose | 89% Other |
| | | | | | 3% Fiber Glass | |
| 02/16/02 | 05971 | LF- AREA D SIFITNG #3 | Soil | <1% Chrysotile | 6% Cellulose | 90% Other |
| | | | | | 4% Fiber Glass | |
| 02/12/02 | 05972 | LF-AREA D SIFTING # 3 | Soil | None | 5% Cellulose | 93% Other |
| | | | | | 2% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/8/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/08/02 | 05954 | B-13 | Soil | None | 5% Cellulose<br>4% Fiber Glass | 91% Other |
| 02/08/02 | 05955 | B-14 | Soil | <1% Chrysotile | 10% Cellulose<br>3% Fiber Glass | 87% Other |
| 02/08/02 | 05956 | B-14 | Soil | None | 10% Cellulose<br>4% Fiber Glass | 86% Other |
| 02/08/02 | 05957 | LF Area D - Sifting #3 | Soil | None | 10% Cellulose<br>2% Fiber Glass | 88% Other |
| 02/08/02 | 05958 | LF - Bldg 6 Sifting #7 | Soil | None | 8% Cellulose<br>3% Fiber Glass | 89% Other |



**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 3/1/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/01/02 | 05991 | LF Area D - Sifting Area # 2 | Soil | <1% Amosite | 10% Cellulose<br>5% Fiber Glass | 85% Other |
| 03/01/02 | 05992 | B-13 | Soil | <1%Chrysotile | 10 % Cellulose<br>7% Fiber Glass | 83% Other |
| 03/01/02 | 05993 | B-13 | Soil | None | 8% Cellulose<br>6% Fiber Glass<br>Trace Synthetic | 86% Other |
| 03/01/02 | 05994 | B-14 | Soil | 0.57% Amosite<br>Trace Chrysotile | 10% Cellulose<br>7% Fiber Glass | 82.43% Other |
| 03/01/02 | 05995 | B-14 | Soil | 1.2 % Amosite<br>< 1% Chrysotile | 5% Cellulose<br>1% Fiber Glass | 92.8% Other |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, March 7, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:15 p.m. on March 7**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 70 samples taken in and around ground zero from February 27 through March 1. EPA also sampled for asbestos at two additional lower Manhattan locations on February 23. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,605, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside Lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island) on February 23. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Nineteen air samples collected on February 24 were analyzed for asbestos. All samples were below the school re-entry standard.

**Metals** - Five air samples were collected on February 13 and analyzed for metals. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on March 2, 5 and 6 at Location "L" (northeast side of Stuyvesant High School); Location "N" (south side of Pier 25); and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on January 25 and 26, and from January 28 through February 5 at a location on Albany Street in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on January 26, from January 28 through February 3, and on February 5 at a location on Park Row in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on January 26, and from January 28 through February 5 at Chambers & West Streets in Lower Manhattan. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**$PM_{10}$** - Monitoring for particulate matter (particles less than 10 micrometers in diameter) was conducted on January 26 and 28, and from January 30 through February 5 at P.S. 274 (800 Bushwick Avenue) in Brooklyn. All 24-hour average values were below the National Ambient Air Quality Standard of 150 ug/m3.

**Dioxin** - A total of 26 samples were collected from February 11 through February 18 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**PCBs** - A total of 60 samples were collected on February 5, 8, 12, 14, 19 and 21 at various locations in Lower Manhattan. PCBs were not detected in 59 of the samples. One sample detected PCBs, but at a level well below the EPA Removal Action level guidelines.

**PAHs** - A total of 98 samples were collected on January 15, 18, 22, 25, 29 and 31, and February 5, 8, 12 and 21 at various locations in Lower Manhattan. PAHs were not detected.

**Metals** - Ten samples were collected on January 18 at various locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 2 and March 6 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots

of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 2 and March 6 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, March 7, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 AM)

Results pending.

NYC / ER (Feb 27, 1200 - 2359 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location K) was not analyzed due to an equipment malfunction.

NYC / ER (Feb 28, 0001 - 1151 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location A) was not analyzed due to an equipment malfunction.

NYC / ER (Feb 28, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 1, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20)

Results pending.

Fresh Kills (Feb 23)

Results pending.

Fresh Kills (Feb 24, 0725 - 2058 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
1 sample (Location O-17) was considered invalid due to an equipment malfunctio

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 13) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Ambient Air Sampling Locations

NYC / ER (Feb 11 - 18) - Dioxin (EPA-ORD)

Five (5) 72-hour samples were collected during this period at Park Row (1 samples), Chambers St./West St. (2 samples), and Albany St. (2 samples) at roof top locations.
One (1) 48-hour sample was collected (due to equipment problems) during this period at Park Row at a rooftop location.
None of the samples collected were above the EPA Removal Action guideline (based on a 30-year exposure).
Note: The analytical results for all of these samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Feb 12) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above thos in the control samples to be considered a valid result.

NYC / ER (Feb 14) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 18) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

NYC / ER (Jan 15) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 18) - PAHs

All 9 samples analyzed did not detect any PAHs.
1 sample (Location P) was not collected due to an equipment malfunction.

NYC / ER (Jan 22) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 25) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 29) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Jan 31) - PAHs

All 9 samples analyzed did not detect any PAHs.
1 sample (Location C) was not collected due to an equipment malfunction.

NYC / ER (Feb 5) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 8) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 12) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 21) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 5) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 8) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 12) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 14) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 19) - PCBs

Trace amounts detected in 1 of 10 samples well below levels of concern. Concentration detected was below the EPA Removal Action level guidelines. 9 samples analyzed did not detect any PCBs.

NYC / ER (Feb 21) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 21) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Feb 23) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:

- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)

- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Jan 25) - Particulate Monitoring ($PM_{10}$ filter)

Albany St. - 24-hr average concentration for this period was ***23.6 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 26) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***34.7 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.0 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***24.5 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***21.1 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 28) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***49.9 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***54.2 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***39.4 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***39.2 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 29) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***54.2 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***57.7 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***49.1 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 30) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***34.2 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.4 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***36.7 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***31.7 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Jan 31) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***18.3 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***23.5 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***29.0 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***16.4 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 1) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***19.5 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***20.0 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***23.2 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***23.0 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 2) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***16.3 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***21.7 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***13.3 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***6.3 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$

(150 ug/m$^3$).

NYC / ER (Feb 3) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***20.9 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***25.2 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***18.7 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***11.6 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 4) - Particulate Monitoring ($PM_{10}$ filter)

Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.7 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***27.2 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***10.9 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Feb 5) - Particulate Monitoring ($PM_{10}$ filter)

Park Row (Site 1) - 24-hour average concentration for this period was ***34.7 ug/m$^3$***.
Chambers St./West St. (Site 2) - 24-hour average concentration for this period was ***37.7 ug/m$^3$***.
Albany St. - 24-hr average concentration for this period was ***27.6 ug/m$^3$***.
P.S. 274 - 800 Bushwick Avenue, Brooklyn (Site 7) - 24-hour average concentration for this period was ***14.7 ug/m$^3$***.
All readings below the National Ambient Air Quality Standard for $PM_{10}$ (150 ug/m$^3$).

NYC / ER (Mar 2) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 34.37 ug/m$^3$ with a maximum reading of 70.25 ug/m$^3$.
Station N had an average 37.19 ug/m$^3$ with a maximum reading of 94.72 ug/m$^3$.
Station R had an average 37.16 ug/m$^3$ with a maximum reading of 85.83 ug/m$^3$.

NYC / ER (Mar 5) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 15.99 ug/$m^3$ with a maximum reading of 376.1 ug/$m^3$.
Station N had an average 14.68 ug/$m^3$ with a maximum reading of 100.64 ug/$m^3$.
Station R had an average 14.27 ug/$m^3$ with a maximum reading of 69.16 ug/$m^3$.

NYC / ER (Mar 6) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 46.59 ug/$m^3$ with a maximum reading of 116.07 ug/$m^3$.
Station N had an average 32.16 ug/$m^3$ with a maximum reading of 200.02 ug/$m^3$.
Station R had an average 38.33 ug/$m^3$ with a maximum reading of 86.01 ug/$m^3$.

NYC / ER (Mar 2) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 6) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at three of the four locations, no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/1/02**
**Sampling Date and Time:** **2/27/02 1200 to 2359**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/27/02 | TTW-00966 | L | 1096.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/27/02 | TTW-00967 | M1 | 1132.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/27/02 | TTW-00968 | N | 1027.95 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/27/02 | TTW-00969 | J | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/27/02 | TTW-00970 | J-Dup | 1060.95 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/27/02 | TTW-00971 | Q | 1120.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/27/02 | TTW-00972 | F | 1106.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/27/02 | TTW-00973 | A | 1065.9 | Air | 12.74 | 0.005 | 0 | 0 | <13.33 | <0.0048 |
| 02/27/02 | TTW-00974 | B | 1174.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/27/02 | TTW-00975 | C | 1179.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/27/02 | TTW-00976 | D | 1096.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/27/02 | TTW-00977 | U | 1130.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/27/02 | TTW-00978 | V | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/27/02 | TTW-00979 | S | 987.7 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 02/27/02 | TTW-00980 | S-Dup | 1030.2 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 02/27/02 | TTW-00981 | E | 1140.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/27/02 | TTW-00982 | W | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |

*No sample for Location K- Duplicate due to Pump Fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** **2/28/02 0001 to 1151**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/28/02 | FB022802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/28/02 | TB022802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/28/02 | TTW-00983 | L | 1093.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/28/02 | TTW-00984 | M1 | 1023.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 02/28/02 | TTW-00985 | N | 919.7 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 02/28/02 | TTW-00986 | N-Dup | 1127.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/28/02 | TTW-00987 | J | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/28/02 | TTW-00988 | Q | 1082.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/28/02 | TTW-00989 | F | 1139.25 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/28/02 | TTW-00990 | F-Dup | 1011.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0051 |
| 02/28/02 | TTW-00991 | B | 1173.15 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/28/02 | TTW-00992 | C | 1155.6 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 02/28/02 | TTW-00993 | D | 914.6 | Air | 10.19 | 0.004 | 0 | 0 | <11.43 | <0.0048 |
| 02/28/02 | TTW-00994 | K | 1046.1 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 02/28/02 | TTW-00995 | U | 656.7 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0047 |
| 02/28/02 | TTW-00996 | V | 1079.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 02/28/02 | TTW-00997 | S | 1077.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 02/28/02 | TTW-00998 | E | 1027.25 | Air | 11.46 | 0.004 | 0 | 0 | <11.43 | <0.0043 |
| 02/28/02 | TTW-00999 | W | 1141 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0045 |

*No sample was taken for Location A due to pump fault.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) In proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-28-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** **2/28/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 02/28/02 | TTW-01000 | E | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/28/02 | TTW-01001 | S | 1171.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 02/28/02 | TTW-01002 | V | 996.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/28/02 | TTW-01003 | U | 1220.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/28/02 | TTW-01004 | K | 1188 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/28/02 | TTW-01005 | D | 1047.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/28/02 | TTW-01006 | C | 1047.2 | Air | 10.19 | 0.004 | 0 | 0 | <11.43 | <0.0042 |
| 02/28/02 | TTW-01007 | B | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/28/02 | TTW-01008 | A | 1146.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/28/02 | TTW-01009 | F | 1205.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/28/02 | TTW-01010 | Q | 1201.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/28/02 | TTW-01011 | J | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/28/02 | TTW-01012 | N | 1189.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/28/02 | TTW-01013 | M1-Dup | 1250.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/28/02 | TTW-01014 | M1 | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/28/02 | TTW-01015 | L-Dup | 1233.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 02/28/02 | TTW-01016 | L | 1026.3 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/28/02 | TTW-01017 | W | 1190 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0043 |

*Please note the sampling route has been reversed*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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M1 : West St. - 50 yards south of Harrison St. at bulkhead
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U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/03/2002**
**Sampling Date and Time:** **3/1/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/01/02 | TTW-01018 | W | 1149.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | FB030102 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/01/02 | TB030102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/01/02 | TTW-01019 | E | 1144.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01020 | S | 1045.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 03/01/02 | TTW-01021 | V | 1144.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01022 | U | 1130.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01023 | K | 1116.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/01/02 | TTW-01024 | D | 1085 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/01/02 | TTW-01025 | C | 1082.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/01/02 | TTW-01026 | B | 977.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/01/02 | TTW-01027 | A-Dup | 1113.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/01/02 | TTW-01028 | A | 1006.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/01/02 | TTW-01029 | F | 1137.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01030 | Q | 1141.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01031 | J-Dup | 1037 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 03/01/02 | TTW-01032 | J | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/01/02 | TTW-01033 | N | 957.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 03/01/02 | TTW-01034 | M1 | 980 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/01/02 | TTW-01035 | L | 1097.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |

*Please Note the Sampling route has been reversed*

**Sampling Locations:**
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G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
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N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/24/02 0725 to 2058**

**Data Validation Date: 02/27/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/24/02 | LF03044 | P-1 | 1262.80 | Air | 8.92 | 0.003 | 0 | 0 | <15.75 | <0.0048 |
| 02/24/02 | LF03045 | P-2 | 1382.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/23/02 | LF03046 | P-3 | 1056.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/24/02 | LF03047 | P-3 Duplicate | 1024.10 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/24/02 | LF03048 | P-4 | 1327.95 | Air | 10.19 | 0.003 | 0 | 0 | <15.75 | <0.0046 |
| 02/24/02 | LF03049 | P-5 | 1218.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/24/02 | LF03050 | P-6 | 1218.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/24/02 | LF03051 | P-7 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/24/02 | LF03052 | P-8 | 1154.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/24/02 | LF03053 | W-11 | 1104.95 | Air | 26.75 | 0.009 | 0 | 0 | <15.75 | <0.0055 |
| 02/24/02 | LF03054 | W-12A | 1303.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/24/02 | LF03055 | W-12B | 1098.80 | Air | 138.85 | 0.049 | 0 | 0 | <13.12 | <0.0046 |
| 02/24/02 | LF03056 | B-13 | 1400.15 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/24/02 | LF03057 | B-14 | 1320.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/24/02 | LF03058 | T-15 | 1296.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0047 |
| 02/24/02 | LF03059 | T-16 | 895.85 | Air | 8.92 | 0.004 | 0 | 0 | <11.25 | <0.0048 |
| 02/24/02 | LF03060 | O-17 | 0.00 | Air | R | R | R | R | R | R |
| 02/24/02 | LF03061 | O-18 | 732.00 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0046 |
| 02/24/02 | LF03062 | O-19 | 1204.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/24/02 | LF03063 | MPHS-20 | 1240.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/24/02 | LF03064 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/24/02 | LF03065 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted
R - Sample data rejected due to no sample volume

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 02/27/02**
**Sampling Date and Time: 2/23/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/23/02 | 7093-18-0149 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/23/02 | 7093-19-0149 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/23/02 | 7093-15-0147 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/23/02 | 7094-09-0137 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/23/02 | 7096-12-0143 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/23/02 | 7095-98-0143 | P.S. 274 (Brooklyn) | 1254 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/23/02 | 7097-18-0140 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable



**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0097 | | WTC-0098 | | WTC-0092 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 120 | |
| Date Collected | | - | | - | | - | | 02/13/02 | | 02/13/02 | | 02/13/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 10 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 1.0 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 1.0 |
| Calcium | ICAP | 3.4 | 2.5 | 4.0 | 2.5 | 3.6 | 2.5 | U | 2.5 | U | 2.5 | U | 21 |
| Chromium | ICAP | 0.55 | 0.13 | 0.88 | 0.13 | 0.9 | 0.13 | U | 0.13 | 0.20 | 0.13 | U | 1.0 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 2.1 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 2.1 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 5.2 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 100 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 1.0 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 2.1 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 420 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 1.0 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 100 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.42 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 2.1 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 2.1 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0093 | | WTC-0094 | | WTC-0095 | | WTC-0096 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 2520 | | 3920 | | 4000 | | 4290 | |
| Date Collected | | 02/13/02 | | 02/13/02 | | 02/13/02 | | 02/13/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.1 | 0.5 | 0.63 | 0.32 | 0.40 | 0.31 | U | 0.29 |
| Antimony | AA-Fur | U | 0.02 | U | 0.013 | U | 0.013 | U | 0.012 |
| Arsenic | AA-Fur | U | 0.02 | U | 0.013 | U | 0.013 | U | 0.012 |
| Barium | ICAP | U | 0.05 | U | 0.032 | 0.041 | 0.031 | U | 0.029 |
| Beryllium | ICAP | U | 0.02 | U | 0.013 | U | 0.013 | U | 0.012 |
| Cadmium | ICAP | U | 0.05 | U | 0.032 | U | 0.031 | U | 0.029 |
| Calcium | ICAP | 11 | 0.99 | 6.6 | 0.64 | 1.8 | 0.63 | 0.92 | 0.58 |
| Chromium | ICAP | 0.076 | 0.05 | U | 0.032 | U | 0.031 | U | 0.029 |
| Cobalt | ICAP | U | 0.099 | U | 0.064 | U | 0.063 | U | 0.058 |
| Copper | ICAP | 0.11 | 0.099 | 0.064 | 0.064 | U | 0.063 | U | 0.058 |
| Iron | ICAP | 1.9 | 0.25 | 1.2 | 0.16 | 1.1 | 0.16 | 0.45 | 0.15 |
| Lead | AA-Fur | 0.10 | 0.02 | 0.068 | 0.013 | 0.02 | 0.013 | 0.016 | 0.012 |
| Magnesium | ICAP | U | 5 | U | 3.2 | U | 3.1 | U | 2.9 |
| Manganese | ICAP | U | 0.05 | U | 0.032 | U | 0.031 | U | 0.029 |
| Nickel | ICAP | U | 0.099 | U | 0.064 | U | 0.063 | U | 0.058 |
| Potassium | ICAP | U | 20 | U | 13 | U | 13 | U | 12 |
| Selenium | AA-Fur | U | 0.02 | U | 0.013 | U | 0.013 | U | 0.012 |
| Silver | ICAP | U | 0.05 | U | 0.032 | U | 0.031 | U | 0.029 |
| Sodium | ICAP | U | 5 | U | 3.2 | U | 3.1 | U | 2.9 |
| Thallium | AA-Fur | U | 0.02 | U | 0.013 | U | 0.013 | U | 0.012 |
| Vanadium | ICAP | U | 0.099 | U | 0.064 | U | 0.063 | U | 0.058 |
| Zinc | ICAP | 0.20 | 0.099 | 0.14 | 0.064 | 0.10 | 0.063 | U | 0.058 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/12/02**

| Sample No. | WG7104-1 | | | 06425 | | | 06426 | | | 06427 | | | 06428 | | | 06429 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R-TAGA | | | Location A | | | Location 3A | | | B-Church & Dey St. | | |
| Volume (Liters) | 0 | | | 6100 | | | 7198 | | | 6165 | | | 5664 | | | 5655 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0033 | U | | 0.0028 | U | | 0.0032 | U | | 0.0035 | U | | 0.0035 |
| 12378-PeCDD | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123478-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123678-HxCDD | U | | 0.10 | U | 0.0007 | 0.016 | 0.0007 J | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123789-HxCDD | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 1234678-HpCDD | 0.0047 J | | 0.10 | U | 0.0006 | 0.016 | U | | 0.014 | U | 0.0007 | 0.016 | U | 0.0006 | 0.018 | U | 0.0008 | 0.018 |
| OCDD | U | 0.0131 | 0.20 | U | 0.0023 | 0.033 | U | | 0.028 | U | 0.0027 | 0.032 | U | | 0.035 | U | | 0.035 |
| 2378-TCDF | U | | 0.020 | U | | 0.0033 | U | | 0.0028 | U | | 0.0032 | U | | 0.0035 | U | | 0.0035 |
| 12378-PeCDF | U | 0.0024 | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 23478-PeCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123478-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 234678-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 123789-HxCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| 1234678-HpCDF | 0.0020 J | | 0.10 | U | | 0.016 | U | | 0.014 | 0.0003 J | | 0.016 | U | | 0.018 | U | | 0.018 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.018 | U | | 0.018 |
| OCDF | U | | 0.20 | U | | 0.033 | U | | 0.028 | U | | 0.032 | U | | 0.035 | U | | 0.035 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | 0.0007 | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0047 | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0020 | | | U | | | U | | | 0.0003 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0399 | | | 0.0005 | | | 0.0005 | | | 0.0006 | | | 0.0007 | | | 0.0008 | | |

COC# 02/13/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

ERTC 2/25/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-12-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/12/02**

| Sample No. | 06430 | | | 06431 | | | 06432 | | | 06433 | | | 06434 | | | 06435 | | | 06436 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | Location S | | | Location P | | | Location E | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7125 | | | 5930.5 | | | 6405 | | | 7119.5 | | | 6292.8 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.0034 | U | | 0.0031 | U | | 0.0028 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | 0.0004 | | 0.014 | U | | 0.017 | U | 0.0009 | 0.016 | U | 0.0007 | 0.014 | 0.0008 J | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | 0.0007 | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | 0.0043 | 0.10 | 0.0036 J | | 0.10 |
| OCDD | U | | 0.028 | U | | 0.0034 | U | | 0.031 | U | | 0.028 | U | | 0.032 | U | | 0.20 | 0.0111 J | | 0.20 |
| 2378-TCDF | U | | 0.0028 | U | | 0.0034 | U | | 0.0031 | U | | 0.0028 | U | | 0.0032 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | 0.0002 | 0.016 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.017 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.028 | U | | 0.0034 | U | | 0.031 | U | | 0.028 | U | | 0.032 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | 0.0004 | | | U | | | U | | | U | | | 0.0008 | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0036 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0004 | | | 0.0005 | | | 0.0005 | | | 0.0006 | | | 0.0004 | | | 0.0401 | | | 0.0399 | | |

COC# 02/12/02 dioxin

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/14/02**

| Sample No. | WG7106-1 | | | 06439 | | | 06440 | | | 06441 | | | 06442 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7440 | | | 7301.25 | | | 7063.88 | | | 6083.88 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0029 | U | | 0.0033 |
| 12378-PeCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123478-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123678-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123789-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 1234678-HpCDD | U | 0.0085 | 0.10 | U | | 0.013 | U | | 0.014 | U | 0.0008 | 0.014 | U | | 0.016 |
| OCDD | U | 0.0249 | 0.20 | U | | 0.027 | U | | 0.027 | U | | 0.029 | U | 0.0032 | 0.033 |
| 2378-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0029 | U | | 0.0033 |
| 12378-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 23478-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123478-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | 0.0001 J | | 0.014 | U | | 0.016 |
| 234678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 123789-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 1234678-HpCDF | U | | 0.10 | 0.0004 J | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.016 |
| OCDF | U | | 0.20 | U | | 0.027 | U | | 0.027 | U | | 0.029 | U | | 0.033 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | 0.0001 | | | U | | |
| Total HpCDFs | U | | | 0.0004 | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0422 | | | 0.0012 | | | 0.0013 | | | 0.0006 | | | 0.0014 | | |

COC# 02/14/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

ERTC 3/04/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-14-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/14/02**

| Sample No. | 06443 | | | 06445 | | | 06447 | | | 06448 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | Location P | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 5560 | | | 6639.75 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0036 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.10 | 0.0046 J | | 0.10 |
| 123789-HxCDD | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | 0.0005 | 0.018 | U | | 0.015 | 0.0042 J | | 0.10 | U | 0.0038 | 0.10 |
| OCDD | U | | 0.0036 | U | | 0.030 | 0.0180 J | | 0.20 | U | 0.0106 | 0.20 |
| 2378-TCDF | U | | 0.0036 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.018 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.0036 | U | | 0.030 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | 0.0046 | | |
| Total HpCDDs | U | | | U | | | 0.0042 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0005 | | |
| TEQ (ND=1/2) | 0.0014 | | | 0.0014 | | | 0.0385 | | | 0.0385 | | |

COC# 02/14/02 dioxin

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/14/02**

| Sample No. | WG7106C-1 | | | 06437 | | | 06438 | | | 06444 | | | 06446 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | R- TAGA | | | R-TAGA | | | Location S | | | Location E | | |
| Volume (Liters) | 0 | | | 5730 | | | 7266.5 | | | 4980 | | | 7005 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0035 | U | | 0.0027 | U | | 0.0040 | U | | 0.0029 |
| 12378-PeCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.017 | U | 0.0006 | 0.014 | U | | 0.02 | U | 0.0006 | 0.014 |
| OCDD | U | 0.0194 | 0.20 | U | 0.0024 | 0.035 | U | | 0.027 | U | 0.0031 | 0.040 | U | | 0.029 |
| 2378-TCDF | U | | 0.020 | U | | 0.0035 | U | | 0.0027 | U | | 0.0040 | U | | 0.0029 |
| 12378-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 23478-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 234678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.02 | U | | 0.014 |
| OCDF | U | | 0.20 | U | | 0.035 | U | | 0.027 | U | | 0.040 | U | | 0.029 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | 0.0003 | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0401 | | | 0.0007 | | | 0.0006 | | | 0.0009 | | | 0.0006 | | |

COC# 02/14/02 dioxin

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06223 | | 06224 | | 06213 | | 06214 | | 06215 | | 06216 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Field Blank | | Lot Blank | | R(TAGA) | | A BARCLAY ST. & WEST BROADWAY | | LOC 3A BTWN LOTC 4 + 5 | | B-CHURCH & DEY ST. | |
| Air Volume (L) | | 0 | | | | 3830 | | 4360 | | 4590 | | 4080 | |
| Date Collected | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.67 J | 0.60 | 0.60 J | 0.60 | U J | 0.20 | 6.3 J | 0.10 | 3.2 J | 0.13 | 1.9 J | 0.14 |
| Antimony | ICAP | U | 0.075 | U | 0.075 | U | 0.020 | 0.017 | 0.017 | 0.016 | 0.016 | U | 0.018 |
| Arsenic | AA-Fur | U | 0.032 | U | 0.032 | U | 0.008 | U | 0.007 | 0.007 | 0.007 | U | 0.008 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.082 | 0.134 | 0.072 | 0.073 | 0.070 | U | 0.080 |
| Beryllium | ICAP | U | 0.049 | U | 0.049 | U | 0.013 | U | 0.011 | U | 0.011 | U | 0.012 |
| Cadmium | ICAP | U J | 0.016 | U J | 0.016 | U J | 0.004 | U J | 0.004 | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | 3.6 | 3.4 | 3.6 | 3.4 | 1.5 | 0.90 | 68 | 0.79 | 46 | 0.80 | 20 | 0.80 |
| Chromium | ICAP | 0.84 | 0.042 | 0.93 | 0.042 | U | 0.011 | U | 0.01 | U | 0.009 | U | 0.010 |
| Cobalt | ICAP | U J | 0.034 | U J | 0.034 | U J | 0.009 | U J | 0.008 | U J | 0.007 | U J | 0.008 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.12 | 0.60 | 0.10 | 0.19 | 0.10 | 0.12 | 0.11 |
| Iron | ICAP | U | 0.91 | U | 0.91 | 0.64 | 0.24 | 16 | 0.21 | 7.8 | 0.20 | 5.7 | 0.22 |
| Lead | AA-Fur | U | 0.01 | U | 0.01 | 0.013 | 0.003 | 0.33 | 0.002 | 0.28 | 0.002 | 0.103 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 0.87 | 13 | 0.80 | 6.2 | 0.70 | 3.6 | 0.80 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.020 | 0.32 | 0.02 | 0.15 | 0.017 | 0.11 | 0.019 |
| Nickel | ICAP | U J | 0.058 | U J | 0.058 | U J | 0.015 | 0.020 J | 0.013 | U J | 0.013 | U J | 0.014 |
| Potassium | ICAP | U J | 3.7 | U J | 3.7 | U J | 0.96 | 1.4 J | 0.80 | U J | 0.80 | U J | 0.90 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.020 | U J | | U | 0.016 | U | 0.018 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.007 | U | 0.006 | U | 0.005 | U | 0.006 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 0.96 | 0.89 | 0.84 | 2.2 | 0.80 | U | 0.90 |
| Thallium | ICAP | U | 0.035 | U | 0.035 | U | 0.009 | U | 0.008 | U | 0.008 | U | 0.009 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.010 | 0.036 | 0.008 | 0.008 | 0.008 | 0.009 | 0.009 |
| Zinc | ICAP | U | 0.079 | U | 0.079 | U | 0.020 | U | 0.018 | U | 0.017 | U | 0.019 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
J denotes the value has been qualified as estimated.
Average Lot Blank and Field Blank concentrations were subtracted from all sample results

Table 1.0 (cont ) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06217 | | 06218 | | 06219 | | 06020 | | 06021 | | 06022 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | B-CHURCH & DEY ST. | | C-LIBERTY ST. & CHURCH ST. | | D GREENWICH & ALBANY ST. | | P ALBANY ST & SOUTH END AVE. | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4850 | | 4710 | | 3978 | | 4120 | | 3630 | | 3950 | |
| Date Collected | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | | 01/18/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.6 J | 0.10 | 0.69 J | 0.10 | 0.84 J | 0.15 | 0.76 J | 0.14 | 0.68 J | 0.16 | 0.73 J | 0.15 |
| Antimony | ICAP | U | 0.015 | U | 0.016 | U | 0.019 | U | 0.018 | U | 0.021 | U | 0.019 |
| Arsenic | AA-Fur | U | 0.007 | U | 0.007 | U | 0.008 | U | 0.008 | U | 0.009 | U | 0.008 |
| Barium | ICAP | U | 0.065 | U | 0.067 | U | 0.079 | U | 0.077 | U | 0.087 | U | 0.080 |
| Beryllium | ICAP | U | 0.010 | U | 0.010 | U | 0.012 | U | 0.012 | U | 0.013 | U | 0.012 |
| Cadmium | ICAP | U J | 0.003 | U J | 0.003 | U J | 0.004 | U J | 0.004 | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | 17 | 0.71 | 6.5 | 0.70 | 7.3 | 0.87 | 6.3 | 0.84 | 6.3 4 | 0.95 | 4.8 | 0.87 |
| Chromium | ICAP | U | 0.12 | U | 0.01 | U | 0.011 | U | 0.010 | U | 0.19 | U | 0.011 |
| Cobalt | ICAP | U J | 0.007 | U J | 0.007 | U J | 0.008 | U J | 0.008 | U J | 0.009 | U J | 0.009 |
| Copper | ICAP | 0.104 | 0.091 | U | 0.094 | U | 0.11 | U | 0.11 | U | 0.12 | U | 0.11 |
| Iron | ICAP | 5.0 | 0.19 | 2.9 | 0.19 | 2.0 | 0.23 | 2.7 | 0.22 | 2.3 | 0.25 | 1.8 | 0.23 |
| Lead | AA-Fur | 0.088 | 0.002 | 0.041 | 0.002 | 0.043 | 0.003 | 0.04 | 0.002 | 0.021 | 0.003 | 0.026 | 0.003 |
| Magnesium | ICAP | 3.1 | 0.68 | 1.02 | 0.70 | 1.4 | 0.83 | 2.0 | 0.80 | 1.3 | 0.91 | 1.2 | 0.84 |
| Manganese | ICAP | 0.088 | 0.016 | 0.045 | 0.016 | 0.045 | 0.019 | 0.043 | 0.019 | 0.035 | 0.021 | 0.035 | 0.020 |
| Nickel | ICAP | U J | 0.012 | U J | 0.012 | U J | 0.015 | U J | 0.014 | U J | 0.016 | U J | 0.015 |
| Potassium | ICAP | U J | 0.78 | U J | 0.78 | U J | 0.92 | U J | 0.89 | U J | 1.0 | U J | 0.93 |
| Selenium | AA-Fur | U | 0.015 | U | 0.016 | U | 0.019 | U | 0.018 | U | 0.021 | U | 0.019 |
| Silver | ICAP | U | 0.005 | U | 0.005 | U | 0.006 | U | 0.006 | U | 0.007 | U | 0.006 |
| Sodium | ICAP | U | 0.78 | U | 0.78 | U | 0.92 | U | 0.89 | U | 1.0 | U | 0.93 |
| Thallium | ICAP | U | 0.007 | 0.013 | 0.007 | U | 0.009 | U | 0.008 | U | 0.01 | U | 0.009 |
| Vanadium | ICAP | U | 0.008 | U | 0.008 | U | 0.009 | U | 0.009 | U | 0.01 | U | 0.009 |
| Zinc | ICAP | U | 0.016 | U | 0.016 | U | 0.020 | U | 0.019 | U | 0.022 | U | 0.020 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Lot Blank and Field Blank concentrations were subtracted from all sample results

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 1/15/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06175 | | 06176 | | 06177 | | 06178 | | 06179 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location B | |
| Volume (L) | 480 | | 480 | | 468 | | 468 | | 480 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 3.0 | U | 3.0 | U | 3.1 | U | 3.1 | U | 3.0 |
| 2-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.8 | U | 2.8 | U | 2.7 |
| 1-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.8 | U | 2.8 | U | 2.7 |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| 2,6-Dimethylnaphthalene | U | 2.4 | U | 2.4 | U | 2.5 | U | 2.5 | U | 2.4 |
| Acenaphthylene | U | 2.5 | U | 2.5 | U | 2.6 | U | 2.6 | U | 2.5 |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluorene | U | 2.3 | U | 2.3 | U | 2.4 | U | 2.4 | U | 2.3 |
| Phenanthrene | U | 2.1 | U | 2.1 | U | 2.2 | U | 2.2 | U | 2.1 |
| Anthracene | U | 2.1 | U | 2.1 | U | 2.2 | U | 2.2 | U | 2.1 |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Benzo[b]fluoranthene | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.6 | U | 1.5 |
| Benzo[k]fluoranthene | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.6 | U | 1.5 |
| Benzo[e]pyrene | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.6 | U | 1.5 |
| Benzo[a]pyrene | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.6 | U | 1.5 |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |

COC: 01/15/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

ERTC 2/28/02

01-15-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 1/15/02 | | | | | | | | | | | Date Sampled 1/15/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06180 | | 06181 | | 06182 | | 06183 | | 06184 | | Sample No. |
| Sampling Location | Location C | | Location D | | Location P | | Location S | | Location E | | Sampling Location |
| Volume (L) | 503 | | 504 | | 480 | | 480 | | 480 | | Volume (L) |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Compound Name |
| Naphthalene | U | 2.8 | U | 2.8 | U | 3.0 | U | 3.0 | U | 3.0 | Naphthalene |
| 2-Methylnaphthalene | U | 2.6 | U | 2.6 | U | 2.7 | U | 2.7 | U | 2.7 | 2-Methylnaphthalene |
| 1-Methylnaphthalene | U | 2.6 | U | 2.6 | U | 2.7 | U | 2.7 | U | 2.7 | 1-Methylnaphthalene |
| Biphenyl | U | 2.4 | U | 2.4 | U | 2.5 | U | 2.5 | U | 2.5 | Biphenyl |
| 2,6-Dimethylnaphthalene | U | 2.3 | U | 2.3 | U | 2.4 | U | 2.4 | U | 2.4 | 2,6-Dimethylnaphthalene |
| Acenaphthylene | U | 2.4 | U | 2.4 | U | 2.5 | U | 2.5 | U | 2.5 | Acenaphthylene |
| Acenaphthene | U | 2.4 | U | 2.4 | U | 2.5 | U | 2.5 | U | 2.5 | Acenaphthene |
| Dibenzofuran | U | 2.2 | U | 2.2 | U | 2.3 | U | 2.3 | U | 2.3 | Dibenzofuran |
| Fluorene | U | 2.2 | U | 2.2 | U | 2.3 | U | 2.3 | U | 2.3 | Fluorene |
| Phenanthrene | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.1 | U | 2.1 | Phenanthrene |
| Anthracene | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.1 | U | 2.1 | Anthracene |
| Carbazole | U | 2.2 | U | 2.2 | U | 2.3 | U | 2.3 | U | 2.3 | Carbazole |
| Fluoranthene | U | 1.8 | U | 1.8 | U | 1.9 | U | 1.9 | U | 1.9 | Fluoranthene |
| Pyrene | U | 1.8 | U | 1.8 | U | 1.9 | U | 1.9 | U | 1.9 | Pyrene |
| Benzo[a]anthracene | U | 1.6 | U | 1.6 | U | 1.7 | U | 1.7 | U | 1.7 | Benzo[a]anthracene |
| Chrysene | U | 1.6 | U | 1.6 | U | 1.7 | U | 1.7 | U | 1.7 | Chrysene |
| Benzo[b]fluoranthene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[b]fluoranthene |
| Benzo[k]fluoranthene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[k]fluoranthene |
| Benzo[e]pyrene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[e]pyrene |
| Benzo[a]pyrene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[a]pyrene |
| Indeno(1,2,3-c,d)pyrene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.4 | Indeno(1,2,3-c,d)pyrene |
| Dibenzo[a,h]anthracene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.4 | Dibenzo[a,h]anthracene |
| Benzo[g,h,i]perylene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.4 | Benzo[g,h,i]perylene |

COC: 01/15/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

COC: 01/15/02-PAHs
U: Denotes not detected
J: Denotes value is estimate
UJ: Denotes MDL is extimat

01-15-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| 06185 Field Blank 0 | | 06186 Lot Blank 0 | |
|---|---|---|---|
| Conc ug | MDL ug | Conc ug | MDL ug |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |

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01-15-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/31/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06625 | | 06626 | | 06627 | | 06628 | | 06630 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location D | |
| Volume (L) | 824.85 | | 651.75 | | 960 | | 930.15 | | 812 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.7 | U | 2.2 | U | 1.5 | U | 1.5 | U | 1.8 |
| 2-Methylnaphthalene | U | 1.6 | U | 2.0 | U | 1.3 | U | 1.4 | U | 1.6 |
| 1-Methylnaphthalene | U | 1.6 | U | 2.0 | U | 1.3 | U | 1.4 | U | 1.6 |
| Biphenyl | U | 1.4 | U | 1.8 | U | 1.2 | U | 1.3 | U | 1.5 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.8 | U | 1.2 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.5 | U | 1.9 | U | 1.3 | U | 1.3 | U | 1.5 |
| Acenaphthene | U | 1.4 | U | 1.8 | U | 1.2 | U | 1.3 | U | 1.5 |
| Dibenzofuran | U | 1.3 | U | 1.7 | U | 1.1 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.3 | U | 1.7 | U | 1.2 | U | 1.2 | U | 1.4 |
| Phenanthrene | U | 1.2 | U | 1.6 | U | 1.1 | U | 1.1 | U | 1.3 |
| Anthracene | U | 1.2 | U | 1.6 | U | 1.1 | U | 1.1 | U | 1.3 |
| Carbazole | U | 1.3 | U | 1.7 | U | 1.1 | U | 1.2 | U | 1.4 |
| Fluoranthene | U | 1.1 | U | 1.4 | U | 0.95 | U | 0.98 | U | 1.1 |
| Pyrene | U | 1.1 | U | 1.4 | U | 0.95 | U | 0.98 | U | 1.1 |
| Benzo[a]anthracene | U | 0.98 | U | 1.2 | U | 0.84 | U | 0.86 | U | 0.99 |
| Chrysene | U | 0.98 | U | 1.2 | U | 0.84 | U | 0.86 | U | 0.99 |
| Benzo[b]fluoranthene | U | 0.88 | U | 1.1 | U | 0.76 | U | 0.78 | U | 0.90 |
| Benzo[k]fluoranthene | U | 0.88 | U | 1.1 | U | 0.76 | U | 0.78 | U | 0.90 |
| Benzo[e]pyrene | U | 0.88 | U | 1.1 | U | 0.76 | U | 0.78 | U | 0.90 |
| Benzo[a]pyrene | U | 0.88 | U | 1.1 | U | 0.76 | U | 0.78 | U | 0.90 |
| Indeno(1,2,3-c,d)pyrene | U | 0.81 | U | 1.0 | U | 0.69 | U | 0.71 | U | 0.82 |
| Dibenzo[a,h]anthracene | U | 0.80 | U | 1.0 | U | 0.69 | U | 0.71 | U | 0.81 |
| Benzo[g,h,i]perylene | U | 0.81 | U | 1.0 | U | 0.69 | U | 0.71 | U | 0.82 |

COC: 01/31/02-PAHs ERT: 3/1/02
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

01-31-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/31/02 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sample No. | 06631 | | 06632 | | 06633 | | 06634 | |
| Sampling Location | Location S | | Location P | | Location E | | Location E | |
| Volume (L) | 566.2 | | 809.25 | | 900.9 | | 944.05 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 2.5 | U | 1.8 | U | 1.6 | U | 1.5 |
| 2-Methylnaphthalene | U | 2.3 | U | 1.6 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 2.3 | U | 1.6 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 2.1 | U | 1.5 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 2.1 | U | 1.5 | U | 1.3 | U | 1.2 |
| Acenaphthylene | U | 2.1 | U | 1.5 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 2.1 | U | 1.5 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.9 | U | 1.3 | U | 1.2 | U | 1.2 |
| Fluorene | U | 2.0 | U | 1.4 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.8 | U | 1.3 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.8 | U | 1.3 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.9 | U | 1.4 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.6 | U | 1.1 | U | 1.0 | U | 0.96 |
| Pyrene | U | 1.6 | U | 1.1 | U | 1.0 | U | 0.96 |
| Benzo[a]anthracene | U | 1.4 | U | 0.99 | U | 0.89 | U | 0.85 |
| Chrysene | U | 1.4 | U | 0.99 | U | 0.89 | U | 0.85 |
| Benzo[b]fluoranthene | U | 1.3 | U | 0.90 | U | 0.81 | U | 0.77 |
| Benzo[k]fluoranthene | U | 1.3 | U | 0.90 | U | 0.81 | U | 0.77 |
| Benzo[e]pyrene | U | 1.3 | U | 0.90 | U | 0.81 | U | 0.77 |
| Benzo[a]pyrene | U | 1.3 | U | 0.90 | U | 0.81 | U | 0.77 |
| Indeno(1,2,3-c,d)pyrene | U | 1.2 | U | 0.82 | U | 0.74 | U | 0.70 |
| Dibenzo[a,h]anthracene | U | 1.2 | U | 0.82 | U | 0.73 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 1.2 | U | 0.82 | U | 0.74 | U | 0.70 |

COC: 01/31/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

01-31-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/31/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06635 | | 06636 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 01/31/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

01-31-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/22/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | wtc-06275 | | wtc-06276 | | wtc-06277 | | wtc-06278 | | wtc-06279 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location 3A | | Location B | |
| Volume (L) | 468 | | 419.25 | | 468 | | 474 | | 492 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 3.1 | U | 3.4 | U | 3.1 | U | 3.0 | U | 2.9 |
| 2-Methylnaphthalene | U | 2.8 | U | 3.1 | U | 2.8 | U | 2.7 | U | 2.6 |
| 1-Methylnaphthalene | U | 2.8 | U | 3.1 | U | 2.8 | U | 2.7 | U | 2.6 |
| Biphenyl | U | 2.5 | U | 2.8 | U | 2.5 | U | 2.5 | U | 2.4 |
| 2,6-Dimethylnaphthalene | U | 2.5 | U | 2.8 | U | 2.5 | U | 2.5 | U | 2.4 |
| Acenaphthylene | U | 2.6 | U | 2.9 | U | 2.6 | U | 2.5 | U | 2.5 |
| Acenaphthene | U | 2.5 | U | 2.8 | U | 2.5 | U | 2.5 | U | 2.4 |
| Dibenzofuran | U | 2.3 | U | 2.6 | U | 2.3 | U | 2.3 | U | 2.2 |
| Fluorene | U | 2.4 | U | 2.6 | U | 2.4 | U | 2.3 | U | 2.2 |
| Phenanthrene | U | 2.2 | U | 2.5 | U | 2.2 | U | 2.2 | U | 2.1 |
| Anthracene | U | 2.2 | U | 2.5 | U | 2.2 | U | 2.2 | U | 2.1 |
| Carbazole | U | 2.3 | U | 2.6 | U | 2.3 | U | 2.3 | U | 2.2 |
| Fluoranthene | U | 1.9 | U | 2.2 | U | 1.9 | U | 1.9 | U | 1.8 |
| Pyrene | U | 1.9 | U | 2.2 | U | 1.9 | U | 1.9 | U | 1.8 |
| Benzo[a]anthracene | U | 1.7 | U | 1.9 | U | 1.7 | U | 1.7 | U | 1.6 |
| Chrysene | U | 1.7 | U | 1.9 | U | 1.7 | U | 1.7 | U | 1.6 |
| Benzo[b]fluoranthene | U | 1.6 | U | 1.7 | U | 1.6 | U | 1.5 | U | 1.5 |
| Benzo[k]fluoranthene | U | 1.6 | U | 1.7 | U | 1.6 | U | 1.5 | U | 1.5 |
| Benzo[e]pyrene | U | 1.6 | U | 1.7 | U | 1.6 | U | 1.5 | U | 1.5 |
| Benzo[a]pyrene | U | 1.6 | U | 1.7 | U | 1.6 | U | 1.5 | U | 1.5 |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.3 |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |

COC: wtc-01/22/02-PAHs
ERT: 3/1/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/22/02 | | | | | | | | | | | Date Sampled 1/22/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | wtc-06280 | | wtc-06281 | | wtc-06282 | | wtc-06283 | | wtc-06284 | | Sample No. |
| Sampling Location | Location C | | Location D | | Location P | | Location S | | Location E | | Sampling Location |
| Volume (L) | 468 | | 480 | | 480 | | 474 | | 444 | | Volume (L) |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Compound Name |
| Naphthalene | U | 3.1 | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.2 | Naphthalene |
| 2-Methylnaphthalene | U | 2.8 | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.9 | 2-Methylnaphthalene |
| 1-Methylnaphthalene | U | 2.8 | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.9 | 1-Methylnaphthalene |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.7 | Biphenyl |
| 2,6-Dimethylnaphthalene | U | 2.5 | U | 2.4 | U | 2.4 | U | 2.5 | U | 2.6 | 2,6-Dimethylnaphthalene |
| Acenaphthylene | U | 2.6 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.7 | Acenaphthylene |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.7 | Acenaphthene |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.5 | Dibenzofuran |
| Fluorene | U | 2.4 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.5 | Fluorene |
| Phenanthrene | U | 2.2 | U | 2.1 | U | 2.1 | U | 2.2 | U | 2.3 | Phenanthrene |
| Anthracene | U | 2.2 | U | 2.1 | U | 2.1 | U | 2.2 | U | 2.3 | Anthracene |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.5 | Carbazole |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 2.0 | Fluoranthene |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 2.0 | Pyrene |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.8 | Benzo[a]anthracene |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.8 | Chrysene |
| Benzo[b]fluoranthene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | Benzo[b]fluoranthene |
| Benzo[k]fluoranthene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | Benzo[k]fluoranthene |
| Benzo[e]pyrene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | Benzo[e]pyrene |
| Benzo[a]pyrene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | Benzo[a]pyrene |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 | Indeno(1,2,3-c,d)pyrene |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 | Dibenzo[a,h]anthracene |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 | Benzo[g,h,i]perylene |

COC: wtc-01/22/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

COC: wtc-01/22/02-PAHs
U: Denotes not detected
J: Denotes value is estimate
UJ: Denotes MDL is estimat

01-22-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| wtc-06285 Field Blank 0 | | wtc-06286 Lot Blank 0 | |
|---|---|---|---|
| Conc ug | MDL ug | Conc ug | MDL ug |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |

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Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/25/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06325 | | 06326 | | 06327 | | 06328 | | 06329 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location 3A | | Location B | |
| Volume (L) | 468 | | 468 | | 480 | | 480 | | 480 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 3.1 | U | 3.1 | U | 3.0 | U | 3.0 | U | 3.0 |
| 2-Methylnaphthalene | U | 2.8 | U | 2.8 | U | 2.7 | U | 2.7 | U | 2.7 |
| 1-Methylnaphthalene | U | 2.8 | U | 2.8 | U | 2.7 | U | 2.7 | U | 2.7 |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| 2,6-Dimethylnaphthalene | U | 2.5 | U | 2.5 | U | 2.4 | U | 2.4 | U | 2.4 |
| Acenaphthylene | U | 2.6 | U | 2.6 | U | 2.5 | U | 2.5 | U | 2.5 |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluorene | U | 2.4 | U | 2.4 | U | 2.3 | U | 2.3 | U | 2.3 |
| Phenanthrene | U | 2.2 | U | 2.2 | U | 2.1 | U | 2.1 | U | 2.1 |
| Anthracene | U | 2.2 | U | 2.2 | U | 2.1 | U | 2.1 | U | 2.1 |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Benzo[b]fluoranthene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[k]fluoranthene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[e]pyrene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[a]pyrene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |

COC: 01/25/02-PAH ERT: 3/1/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/25/02 | | | | | | | | | | | Date Sampled 1/25/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06330 | | 06331 | | 06332 | | 06333 | | 06334 | | Sample No. |
| Sampling Location | Location C | | Location D | | Location P | | Location S | | Location E | | Sampling Location |
| Volume (L) | 480 | | 480 | | 480 | | 504 | | 480 | | Volume (L) |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Compound Name |
| Naphthalene | U | 3.0 | U | 3.0 | U | 3.0 | U | 2.8 | U | 3.0 | Naphthalene |
| 2-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.6 | U | 2.7 | 2-Methylnaphthalene |
| 1-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.6 | U | 2.7 | 1-Methylnaphthalene |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.4 | U | 2.5 | Biphenyl |
| 2,6-Dimethylnaphthalene | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.3 | U | 2.4 | 2,6-Dimethylnaphthalene |
| Acenaphthylene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.4 | U | 2.5 | Acenaphthylene |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.4 | U | 2.5 | Acenaphthene |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.2 | U | 2.3 | Dibenzofuran |
| Fluorene | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.2 | U | 2.3 | Fluorene |
| Phenanthrene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.0 | U | 2.1 | Phenanthrene |
| Anthracene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.0 | U | 2.1 | Anthracene |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.2 | U | 2.3 | Carbazole |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | Fluoranthene |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | Pyrene |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.6 | U | 1.7 | Benzo[a]anthracene |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.6 | U | 1.7 | Chrysene |
| Benzo[b]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 | Benzo[b]fluoranthene |
| Benzo[k]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 | Benzo[k]fluoranthene |
| Benzo[e]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 | Benzo[e]pyrene |
| Benzo[a]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 | Benzo[a]pyrene |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 | Indeno(1,2,3-c,d)pyrene |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 | Dibenzo[a,h]anthracene |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 | Benzo[g,h,i]perylene |

COC: 01/25/02-PAH
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

COC: 01/25/02-PAH
U: Denotes not detected
J: Denotes value is estimate
UJ: Denotes MDL is estimat

01-25-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| 06335 Field Blank 0 | | 06336 Lot Blank 0 | |
|---|---|---|---|
| Conc ug | MDL ug | Conc ug | MDL ug |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |

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Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/29/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06375 | | 06376 | | 06377 | | 06378 | | 06379 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location C | |
| Volume (L) | 936 | | 936 | | 795.6 | | 936 | | 904.8 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.8 | U | 1.5 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 0.97 | U | 0.97 | U | 1.1 | U | 0.97 | U | 1.0 |
| Pyrene | U | 0.97 | U | 0.97 | U | 1.1 | U | 0.97 | U | 1.0 |
| Benzo[a]anthracene | U | 0.86 | U | 0.86 | U | 1.0 | U | 0.86 | U | 0.89 |
| Chrysene | U | 0.86 | U | 0.86 | U | 1.0 | U | 0.86 | U | 0.89 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.78 | U | 0.91 | U | 0.78 | U | 0.80 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.78 | U | 0.91 | U | 0.78 | U | 0.80 |
| Benzo[e]pyrene | U | 0.78 | U | 0.78 | U | 0.91 | U | 0.78 | U | 0.80 |
| Benzo[a]pyrene | U | 0.78 | U | 0.78 | U | 0.91 | U | 0.78 | U | 0.80 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.71 | U | 0.84 | U | 0.71 | U | 0.73 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.70 | U | 0.83 | U | 0.70 | U | 0.73 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.71 | U | 0.84 | U | 0.71 | U | 0.73 |

COC: 01/29/02-PAHs ERT: 3/1/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/29/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06380 | | 06381 | | 06382 | | 06383 | | 06384 | |
| Sampling Location | Location D | | Location S | | Location P | | Location E | | Location E | |
| Volume (L) | 934.18 | | 936 | | 936 | | 936 | | 402.8 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 3.6 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 3.2 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 3.2 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 3.0 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 2.9 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 3.0 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 3.0 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 2.7 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 2.7 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 2.6 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 2.6 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 2.7 |
| Fluoranthene | U | 0.97 | U | 0.97 | U | 0.97 | U | 0.97 | U | 2.3 |
| Pyrene | U | 0.97 | U | 0.97 | U | 0.97 | U | 0.97 | U | 2.3 |
| Benzo[a]anthracene | U | 0.86 | U | 0.86 | U | 0.86 | U | 0.86 | U | 2.0 |
| Chrysene | U | 0.86 | U | 0.86 | U | 0.86 | U | 0.86 | U | 2.0 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U | 1.8 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U | 1.8 |
| Benzo[e]pyrene | U | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U | 1.8 |
| Benzo[a]pyrene | U | 0.78 | U | 0.78 | U | 0.78 | U | 0.78 | U | 1.8 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.71 | U | 0.71 | U | 0.71 | U | 1.6 |
| Dibenzo[a,h]anthracene | U | 0.71 | U | 0.70 | U | 0.70 | U | 0.70 | U | 1.6 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.71 | U | 0.71 | U | 0.71 | U | 1.6 |

COC: 01/29/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/29/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06385 | | 06386 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 01/29/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

01-29-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/18/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06225 | | 06226 | | 06227 | | 06228 | | 06229 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location B | |
| Volume (L) | 480 | | 480 | | 480 | | 480 | | 480 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 |
| 2-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 |
| 1-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| 2,6-Dimethylnaphthalene | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 |
| Acenaphthylene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluorene | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Phenanthrene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 |
| Anthracene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 |
| Benzo[b]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[k]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[e]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 |
| Benzo[a]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |

COC: 01/18/02-PAHs ERT: 3/1/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 1/18/02 | | | | | | | | | Date Sampled 1/18/02 |
|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06230 | | 06231 | | 06233 | | 06234 | | Sample No. |
| Sampling Location | Location C | | Location D | | Location S | | Location E | | Sampling Location |
| Volume (L) | 480 | | 480 | | 480 | | 480 | | Volume (L) |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Compound Name |
| Naphthalene | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 | Naphthalene |
| 2-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 | 2-Methylnaphthalene |
| 1-Methylnaphthalene | U | 2.7 | U | 2.7 | U | 2.7 | U | 2.7 | 1-Methylnaphthalene |
| Biphenyl | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | Biphenyl |
| 2,6-Dimethylnaphthalene | U | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 | 2,6-Dimethylnaphthalene |
| Acenaphthylene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | Acenaphthylene |
| Acenaphthene | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | Acenaphthene |
| Dibenzofuran | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | Dibenzofuran |
| Fluorene | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | Fluorene |
| Phenanthrene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | Phenanthrene |
| Anthracene | U | 2.1 | U | 2.1 | U | 2.1 | U | 2.1 | Anthracene |
| Carbazole | U | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | Carbazole |
| Fluoranthene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | Fluoranthene |
| Pyrene | U | 1.9 | U | 1.9 | U | 1.9 | U | 1.9 | Pyrene |
| Benzo[a]anthracene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | Benzo[a]anthracene |
| Chrysene | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | Chrysene |
| Benzo[b]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[b]fluoranthene |
| Benzo[k]fluoranthene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[k]fluoranthene |
| Benzo[e]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[e]pyrene |
| Benzo[a]pyrene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | Benzo[a]pyrene |
| Indeno(1,2,3-c,d)pyrene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | Indeno(1,2,3-c,d)pyrene |
| Dibenzo[a,h]anthracene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | Dibenzo[a,h]anthracene |
| Benzo[g,h,i]perylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | Benzo[g,h,i]perylene |

COC: 01/18/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

COC: 01/18/02-PAHs
U: Denotes not detected
J: Denotes value is estimate
UJ: Denotes MDL is estimat

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Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| 06235 Field Blank 0 | | 06236 Lot Blank 0 | |
|---|---|---|---|
| Conc ug | MDL ug | Conc ug | MDL ug |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |
| U | 7.5 | U | 7.5 |

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Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 02/05/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06501 | | 06502 | | 06503 | | 06504 | | 06505 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location C | |
| Volume (L) | 920 | | 842.4 | | 875.88 | | 766.35 | | 839.8 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.7 | U | 1.6 | U | 1.9 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.7 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.7 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Fluoranthene | U | 0.99 | U | 1.1 | U | 1.0 | U | 1.2 | U | 1.1 |
| Pyrene | U | 0.99 | U | 1.1 | U | 1.0 | U | 1.2 | U | 1.1 |
| Benzo[a]anthracene | U | 0.87 | U | 0.95 | U | 0.92 | U | 1.0 | U | 0.96 |
| Chrysene | U | 0.87 | U | 0.95 | U | 0.92 | U | 1.0 | U | 0.96 |
| Benzo[b]fluoranthene | U | 0.79 | U | 0.86 | U | 0.83 | U | 0.95 | U | 0.87 |
| Benzo[k]fluoranthene | U | 0.79 | U | 0.86 | U | 0.83 | U | 0.95 | U | 0.87 |
| Benzo[e]pyrene | U | 0.79 | U | 0.86 | U | 0.83 | U | 0.95 | U | 0.87 |
| Benzo[a]pyrene | U | 0.79 | U | 0.86 | U | 0.83 | U | 0.95 | U | 0.87 |
| Indeno(1,2,3-c,d)pyrene | U | 0.72 | U | 0.79 | U | 0.76 | U | 0.87 | U | 0.79 |
| Dibenzo[a,h]anthracene | U | 0.72 | U | 0.78 | U | 0.75 | U | 0.86 | U | 0.79 |
| Benzo[g,h,i]perylene | U | 0.72 | U | 0.79 | U | 0.76 | U | 0.87 | U | 0.79 |

COC: 02/05/02-PAHs ERT: 3/4/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-05-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 2/05/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06506 | | 06507 | | 06508 | | 06509 | | 06510 | |
| Sampling Location | Location D | | Location S | | Location S | | Location P | | Location E | |
| Volume (L) | 780.9 | | 818.55 | | 900 | | 910.35 | | 334.95 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.8 | U | 1.6 | U | 1.6 | U | 4.3 |
| 2-Methylnaphthalene | U | 1.7 | U | 1.6 | U | 1.4 | U | 1.4 | U | 3.9 |
| 1-Methylnaphthalene | U | 1.7 | U | 1.6 | U | 1.4 | U | 1.4 | U | 3.9 |
| Biphenyl | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.3 | U | 3.6 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 | U | 3.5 |
| Acenaphthylene | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.3 | U | 3.6 |
| Acenaphthene | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.3 | U | 3.6 |
| Dibenzofuran | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 3.3 |
| Fluorene | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 3.3 |
| Phenanthrene | U | 1.3 | U | 1.3 | U | 1.1 | U | 1.1 | U | 3.1 |
| Anthracene | U | 1.3 | U | 1.3 | U | 1.1 | U | 1.1 | U | 3.1 |
| Carbazole | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 3.3 |
| Fluoranthene | U | 1.2 | U | 1.1 | U | 1.0 | U | 1.0 | U | 2.7 |
| Pyrene | U | 1.2 | U | 1.1 | U | 1.0 | U | 1.0 | U | 2.7 |
| Benzo[a]anthracene | U | 1.0 | U | 0.98 | U | 0.89 | U | 0.88 | U | 2.4 |
| Chrysene | U | 1.0 | U | 0.98 | U | 0.89 | U | 0.88 | U | 2.4 |
| Benzo[b]fluoranthene | U | 0.93 | U | 0.89 | U | 0.81 | U | 0.80 | U | 2.2 |
| Benzo[k]fluoranthene | U | 0.93 | U | 0.89 | U | 0.81 | U | 0.80 | U | 2.2 |
| Benzo[e]pyrene | U | 0.93 | U | 0.89 | U | 0.81 | U | 0.80 | U | 2.2 |
| Benzo[a]pyrene | U | 0.93 | U | 0.89 | U | 0.81 | U | 0.80 | U | 2.2 |
| Indeno(1,2,3-c,d)pyrene | U | 0.85 | U | 0.81 | U | 0.74 | U | 0.73 | U | 2.0 |
| Dibenzo[a,h]anthracene | U | 0.84 | U | 0.81 | U | 0.73 | U | 0.72 | U | 2.0 |
| Benzo[g,h,i]perylene | U | 0.85 | U | 0.81 | U | 0.74 | U | 0.73 | U | 2.0 |

COC: 02/05/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-05-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 2/05/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06511 | | 06512 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/05/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-05-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 02/08/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06513 | | 06514 | | 06515 | | 06516 | | 06517 | |
| Sampling Location | Location R | | Location A | | Location 3A | | Location B | | Location C | |
| Volume (L) | 932.2 | | 878.88 | | 948 | | 797.55 | | 936 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.6 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.6 | U | 1.4 |
| Biphenyl | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.5 | U | 1.3 |
| Acenaphthylene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.2 |
| Fluoranthene | U | 0.97 | U | 1.0 | U | 0.96 | U | 1.1 | U | 0.97 |
| Pyrene | U | 0.97 | U | 1.0 | U | 0.96 | U | 1.1 | U | 0.97 |
| Benzo[a]anthracene | U | 0.86 | U | 0.92 | U | 0.85 | U | 1.0 | U | 0.86 |
| Chrysene | U | 0.86 | U | 0.92 | U | 0.85 | U | 1.0 | U | 0.86 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.83 | U | 0.77 | U | 0.91 | U | 0.78 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.83 | U | 0.77 | U | 0.91 | U | 0.78 |
| Benzo[e]pyrene | U | 0.78 | U | 0.83 | U | 0.77 | U | 0.91 | U | 0.78 |
| Benzo[a]pyrene | U | 0.78 | U | 0.83 | U | 0.77 | U | 0.91 | U | 0.78 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.76 | U | 0.70 | U | 0.83 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.71 | U | 0.75 | U | 0.70 | U | 0.83 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.76 | U | 0.70 | U | 0.83 | U | 0.71 |

COC: 02/08/02-PAHs ERT: 3/4/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-08-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 2/08/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06518 | | 06519 | | 06520 | | 06521 | | 06522 | |
| Sampling Location | Location D | | Location S | | Location S | | Location P | | Location E | |
| Volume (L) | 914.43 | | 900 | | 871.65 | | 954 | | 465.5 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.5 | U | 3.1 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 | U | 2.8 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 | U | 2.8 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.2 | U | 2.6 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.2 | U | 2.5 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 | U | 2.6 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.2 | U | 2.6 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.1 | U | 2.3 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 2.4 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 | U | 2.2 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 | U | 2.2 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 2.4 |
| Fluoranthene | U | 0.99 | U | 1.0 | U | 1.0 | U | 0.95 | U | 2.0 |
| Pyrene | U | 0.99 | U | 1.0 | U | 1.0 | U | 0.95 | U | 2.0 |
| Benzo[a]anthracene | U | 0.88 | U | 0.89 | U | 0.92 | U | 0.84 | U | 1.7 |
| Chrysene | U | 0.88 | U | 0.89 | U | 0.92 | U | 0.84 | U | 1.7 |
| Benzo[b]fluoranthene | U | 0.80 | U | 0.81 | U | 0.84 | U | 0.76 | U | 1.6 |
| Benzo[k]fluoranthene | U | 0.80 | U | 0.81 | U | 0.84 | U | 0.76 | U | 1.6 |
| Benzo[e]pyrene | U | 0.80 | U | 0.81 | U | 0.84 | U | 0.76 | U | 1.6 |
| Benzo[a]pyrene | U | 0.80 | U | 0.81 | U | 0.84 | U | 0.76 | U | 1.6 |
| Indeno(1,2,3-c,d)pyrene | U | 0.73 | U | 0.74 | U | 0.76 | U | 0.70 | U | 1.4 |
| Dibenzo[a,h]anthracene | U | 0.72 | U | 0.73 | U | 0.76 | U | 0.69 | U | 1.4 |
| Benzo[g,h,i]perylene | U | 0.73 | U | 0.74 | U | 0.76 | U | 0.70 | U | 1.4 |

COC: 02/08/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-08-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 2/08/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06523 | | 06524 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/08/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-08-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 02/12/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06525 | | 06526 | | 06527 | | 06528 | | 06529 | |
| Sampling Location | Location R | | Location R | | Location A | | Location 3A | | Location B | |
| Volume (L) | 850.5 | | 936 | | 930.15 | | 828.75 | | 811.3 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.7 | U | 1.5 | U | 1.5 | U | 1.7 | U | 1.8 |
| 2-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.6 |
| 1-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.6 |
| Biphenyl | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.5 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.4 |
| Acenaphthylene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.5 |
| Acenaphthene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.5 |
| Dibenzofuran | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.3 |
| Fluorene | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.4 |
| Phenanthrene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.3 |
| Anthracene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.3 |
| Carbazole | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.4 |
| Fluoranthene | U | 1.1 | U | 0.97 | U | 0.98 | U | 1.1 | U | 1.1 |
| Pyrene | U | 1.1 | U | 0.97 | U | 0.98 | U | 1.1 | U | 1.1 |
| Benzo[a]anthracene | U | 0.95 | U | 0.86 | U | 0.86 | U | 0.97 | U | 0.99 |
| Chrysene | U | 0.95 | U | 0.86 | U | 0.86 | U | 0.97 | U | 0.99 |
| Benzo[b]fluoranthene | U | 0.86 | U | 0.78 | U | 0.78 | U | 0.88 | U | 0.90 |
| Benzo[k]fluoranthene | U | 0.86 | U | 0.78 | U | 0.78 | U | 0.88 | U | 0.90 |
| Benzo[e]pyrene | U | 0.86 | U | 0.78 | U | 0.78 | U | 0.88 | U | 0.90 |
| Benzo[a]pyrene | U | 0.86 | U | 0.78 | U | 0.78 | U | 0.88 | U | 0.90 |
| Indeno(1,2,3-c,d)pyrene | U | 0.78 | U | 0.71 | U | 0.71 | U | 0.80 | U | 0.82 |
| Dibenzo[a,h]anthracene | U | 0.78 | U | 0.70 | U | 0.71 | U | 0.80 | U | 0.81 |
| Benzo[g,h,i]perylene | U | 0.78 | U | 0.71 | U | 0.71 | U | 0.80 | U | 0.82 |

COC: 02/12/02-PAHs ERT: 3/5/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-12-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 02/12/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06530 | | 06531 | | 06532 | | 06533 | | 06534 | |
| Sampling Location | Location C 782.55 | | Location D 848 | | Location S 948 | | Location P 912.45 | | Location E 918.45 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.7 | U | 1.5 | U | 1.6 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.4 | U | 1.2 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.2 | U | 1.1 | U | 0.96 | U | 1.0 | U | 0.99 |
| Pyrene | U | 1.2 | U | 1.1 | U | 0.96 | U | 1.0 | U | 0.99 |
| Benzo[a]anthracene | U | 1.0 | U | 0.95 | U | 0.85 | U | 0.88 | U | 0.88 |
| Chrysene | U | 1.0 | U | 0.95 | U | 0.85 | U | 0.88 | U | 0.88 |
| Benzo[b]fluoranthene | U | 0.93 | U | 0.86 | U | 0.77 | U | 0.80 | U | 0.79 |
| Benzo[k]fluoranthene | U | 0.93 | U | 0.86 | U | 0.77 | U | 0.80 | U | 0.79 |
| Benzo[e]pyrene | U | 0.93 | U | 0.86 | U | 0.77 | U | 0.80 | U | 0.79 |
| Benzo[a]pyrene | U | 0.93 | U | 0.86 | U | 0.77 | U | 0.80 | U | 0.79 |
| Indeno(1,2,3-c,d)pyrene | U | 0.85 | U | 0.78 | U | 0.70 | U | 0.73 | U | 0.72 |
| Dibenzo[a,h]anthracene | U | 0.84 | U | 0.78 | U | 0.70 | U | 0.72 | U | 0.72 |
| Benzo[g,h,i]perylene | U | 0.85 | U | 0.78 | U | 0.70 | U | 0.73 | U | 0.72 |

COC: 02/12/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-12-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 02/12/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06535 | | 06536 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/12/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

02-12-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/21/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06563 | | 06564 | | 06565 | | 06566 | | 06567 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 782.8 | | 914.43 | | 936 | | 936 | | 924 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.3 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.3 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.2 | U | 0.99 | U | 0.97 | U | 0.97 | U | 0.98 |
| Pyrene | U | 1.2 | U | 0.99 | U | 0.97 | U | 0.97 | U | 0.98 |
| Benzo[a]anthracene | U | 1.0 | U | 0.88 | U | 0.86 | U | 0.86 | U | 0.87 |
| Chrysene | U | 1.0 | U | 0.88 | U | 0.86 | U | 0.86 | U | 0.87 |
| Benzo[b]fluoranthene | U | 0.93 | U | 0.80 | U | 0.78 | U | 0.78 | U | 0.79 |
| Benzo[k]fluoranthene | U | 0.93 | U | 0.80 | U | 0.78 | U | 0.78 | U | 0.79 |
| Benzo[e]pyrene | U | 0.93 | U | 0.80 | U | 0.78 | U | 0.78 | U | 0.79 |
| Benzo[a]pyrene | U | 0.93 | U | 0.80 | U | 0.78 | U | 0.78 | U | 0.79 |
| Indeno(1,2,3-c,d)pyrene | U | 0.85 | U | 0.73 | U | 0.71 | U | 0.71 | U | 0.72 |
| Dibenzo[a,h]anthracene | U | 0.84 | U | 0.72 | U | 0.70 | U | 0.70 | U | 0.71 |
| Benzo[g,h,i]perylene | U | 0.85 | U | 0.73 | U | 0.71 | U | 0.71 | U | 0.72 |

COC: 02/21/02-PAHs ERT: 3/5/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-21-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/21/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06568 | | 06569 | | 06570 | | 06571 | | 06572 | |
| Sampling Location | Location C | | Location B | | Location B | | Location 3A | | Location A | |
| | 908 | | 820.95 | | 932.1 | | 877.8 | | 936 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.7 | U | 1.5 | U | 1.6 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 | U | 1.4 |
| Biphenyl | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.3 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluoranthene | U | 1.0 | U | 1.1 | U | 0.97 | U | 1.0 | U | 1.0 |
| Pyrene | U | 1.0 | U | 1.1 | U | 0.97 | U | 1.0 | U | 1.0 |
| Benzo[a]anthracene | U | 0.89 | U | 0.98 | U | 0.86 | U | 0.92 | U | 0.86 |
| Chrysene | U | 0.89 | U | 0.98 | U | 0.86 | U | 0.92 | U | 0.86 |
| Benzo[b]fluoranthene | U | 0.80 | U | 0.89 | U | 0.78 | U | 0.83 | U | 0.78 |
| Benzo[k]fluoranthene | U | 0.80 | U | 0.89 | U | 0.78 | U | 0.83 | U | 0.78 |
| Benzo[e]pyrene | U | 0.80 | U | 0.89 | U | 0.78 | U | 0.83 | U | 0.78 |
| Benzo[a]pyrene | U | 0.80 | U | 0.89 | U | 0.78 | U | 0.83 | U | 0.78 |
| Indeno(1,2,3-c,d)pyrene | U | 0.73 | U | 0.81 | U | 0.71 | U | 0.76 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.73 | U | 0.80 | U | 0.71 | U | 0.75 | U | 0.7 |
| Benzo[g,h,i]perylene | U | 0.73 | U | 0.81 | U | 0.71 | U | 0.76 | U | 0.71 |

COC: 02/21/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-21-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/21/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06573 | | 06574 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/21/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-21-02PAH.xls

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/12/02**

| Sample No. | WG-7104-1P | | 06425 | | 06426 | | 06427 | | 06428 | | 06429 | | 06430 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3A | | B | | C | |
| Sample Volume (L) | 0 | | 6100 | | 7198 | | 6165 | | 5664 | | 5655 | | 7125 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of MoCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of DiCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of TrCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of TeCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of PeCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of HxCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of HpCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of OcCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Sum of NoCBs | U | 10.0 | U | 1.64 | U | 1.39 | U | 1.62 | U | 1.77 | U | 1.77 | U | 1.40 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/12/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/25/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/12/02**

| Sample No. | 06431 | | 06432 | | 06433 | | 06434 | | 06435 | | 06436 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | S | | P | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 5930.5 | | 6405 | | 7119.5 | | 6292.8 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.69 | U | 1.56 | U | 1.40 | U | 1.59 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/12/02-Dioxin

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/05/02**

| Sample No. | WG-7092-1P | | 06401 | | 06402 | | 06403 | | 06404 | | 06405 | | 06406 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | C | | D | |
| Sample Volume (L) | 0 | | 5625 | | 6120 | | 5640 | | 6858.75 | | 5865 | | 6750 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of MoCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of DiCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of TrCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of TeCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of PeCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of HxCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of HpCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of OcCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Sum of NoCBs | U | 10.0 | U | 1.78 | U | 1.63 | U | 1.77 | U | 1.46 | U | 1.71 | U | 1.48 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/05/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/25/02

2-05-02PCBair.xls

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/05/02**

| Sample No. | 06407 | | 06408 | | 06409 | | 06410 | | 06411 | | 06412 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | S | | S | | P | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 3435 | | 5145 | | 5610 | | 5085 | | 0 | | 0 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | ng | ng | ng | ng |
| 209-DeCB | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 2.91 | U | 1.94 | U | 1.78 | U | 1.97 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/05/02-Dioxin

**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/08/02**

| Sample No. | WG-7097-1P | | 06413 | | 06414 | | 06415 | | 06416 | | 06417 | | 06418 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | A | | 3A | | B | | C | | D | |
| Sample Volume (L) | 0 | | 7056 | | 6465 | | 6855 | | 6045 | | 5730 | | 5535 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of MoCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of DiCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of TrCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of TeCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of PeCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of HxCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of HpCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of OcCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Sum of NoCBs | U | 10.0 | U | 1.42 | U | 1.55 | U | 1.46 | U | 1.65 | U | 1.75 | U | 1.81 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/08/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 2/25/02

**NYC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/08/02**

| Sample No. | 06419 | | 06420 | | 06421 | | 06422 | | 06423 | | 06424 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | S | | S | | P | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6165 | | 7440 | | 7840 | | 5880 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.62 | U | 1.34 | U | 1.28 | U | 1.70 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/08/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/14/02**

| Sample No. | WG-7106-1P | | 06437 | | 06438 | | 06439 | | 06440 | | 06441 | | 06442 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | A | | 3A | | B | | C | |
| Sample Volume (L) | 0 | | 5730 | | 7286.5 | | 7440 | | 7301.25 | | 7063.88 | | 6083.8 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of MoCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of DiCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of TrCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of TeCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of PeCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of HxCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of HpCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of OcCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Sum of NoCBs | U | 10.0 | U | 1.75 | U | 1.37 | U | 1.34 | U | 1.37 | U | 1.42 | U | 1.64 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/14/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/4/02

2-14-02PCBair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/14/02**

| Sample No. | 06443 | | 06444 | | 06445 | | 06446 | | 06447 | | 06448 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D | | S | | P | | E | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 5580 | | 4980 | | 6639.75 | | 7005 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.79 | U | 2.01 | U | 1.51 | U | 1.43 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/14/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/19/02**

| Sample No. | WG-7116-1P | | 06449 | | 06450 | | 06451 | | 06452 | | 06453 | | 06454 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 6534 | | 7155 | | 7018 | | 7122.38 | | 7335 | | 7579.5 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of MoCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of DiCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of TrCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of TeCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of PeCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of HxCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of HpCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of OcCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Sum of NoCBs | U | 10.0 | U | 1.53 | U | 1.40 | U | 1.42 | U | 1.40 | U | 1.36 | U | 1.32 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/19/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/4/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/19/02**

| Sample No. | 06455 | | 06456 | | 06457 | | 06458 | | 06459 | | 06460 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7335 | | 6903 | | 6885 | | 7515 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.36 | U | 1.45 | U | 1.45 | 3.17 | 1.33 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.36 | U | 1.45 | U | 1.45 | U | 1.33 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 3.17 | | 0 | | 0 | |

COC# 02/19/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/21/02**

| Sample No. | WG-7120-1P | | 06461 | | 06462 | | 06463 | | 06464 | | 06465 | | 06466 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 7305 | | 7018 | | 7032.5 | | 7305 | | 7198 | | 7005 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of MoCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of DiCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of TrCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of TeCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of PeCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of HxCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of HpCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of OcCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Sum of NoCBs | U | 10.0 | U | 1.37 | U | 1.42 | U | 1.42 | U | 1.37 | U | 1.39 | U | 1.43 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/21/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/4/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/21/02**

| Sample No. | 06467 | | 06468 | | 06469 | | 06470 | | 06471 | | 06472 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7305 | | 7350 | | 7410 | | 7316 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.36 | U | 1.35 | U | 1.37 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/21/02-Dioxin

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 2, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D074 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0634 | 0637 | 0632 |
| **Stop Time** | 1446 | 1450 | 1445 |
| **Run Time (minutes)** | 492 | 493 | 493 |
| **Maximum Concentration ($ug/m^3$)** | 70.25 | 94.72 | 85.83 |
| **Average Concentration ($ug/m^3$)** | 34.37 | 37.19 | 37.16 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 6, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0632 | 0635 | 0629 |
| Stop Time | 1434 | 1438 | 1430 |
| Run Time (minutes) | 482 | 483 | 481 |
| Maximum Concentration ($ug/m^3$) | 116.07 | 200.02 | 86.01 |
| Average Concentration ($ug/m^3$) | 46.59 | 32.16 | 38.33 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 5, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D074 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0632 | 0635 | 0630 |
| Stop Time | 1436 | 1439 | 1433 |
| Run Time (minutes) | 484 | 484 | 483 |
| Maximum Concentration ($ug/m^3$) | 376.1 | 100.64 | 69.16 |
| Average Concentration ($ug/m^3$) | 15.99 | 14.68 | 14.27 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/06/02**

| File Name | NYC1218 | NYC1219 | NYC1220 | NYC1221 | NYC1223 | NYC1222 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07562 | A07563 | A07565 | A07564 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | 78 | 25 | RL | 28 |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/02/02**

| File Name | NYC1185 | NYC1186 | NYC1187 | NYC1188 | NYC1190 | NYC1189 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07545 | A07546 | A07547 | A07548 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday-Monday, March 8-11, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:45 p.m. on March 11**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 18 samples taken in and around ground zero on March 1. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for lower Manhattan to 6,623, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Staten Island Landfill:**

**Air (Asbestos)** - Thirty-seven air samples collected on March 1 and March 2 were analyzed for asbestos. All samples were below the school re-entry standard.

**Metals** - Four air samples were collected on February 22 and analyzed for metals. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on March 7 and March 8 at Location "L" (northeast side of Stuyvesant High School) and Location "N" (south side of

Pier 25). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Dioxin** - Ten samples were collected from February 19 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**PAHs** - A total of 20 samples were collected on February 14 and February 26 at various locations in Lower Manhattan. PAHs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 7 and March 8 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 7 and March 8 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, March 11, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 AM)

Results pending.

NYC / ER (Mar 1, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 2 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20)

Results pending.

Fresh Kills (Feb 23)

Results pending.

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 27)

Results pending.

Fresh Kills (Feb 28)

Results pending.

Fresh Kills (Mar 1, 0715 - 2050 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Location W-11 is no longer being monitored since the operations in that area have ended.

Fresh Kills (Mar 2, 0740 - 2125 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-1) was not collected due to an equipment malfunction.

Fresh Kills (Feb 22) - Metals

4 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Mar 5) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Fresh Kills (Mar 6 - 11) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Feb 19) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 14) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 26) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 21) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 7) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
No readings taken at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 50.21 ug/$m^3$ with a maximum reading of 345.02 ug/$m^3$.
Station N had an average of 32.28 ug/$m^3$ with a maximum reading of 153.19 ug/$m^3$.

NYC / ER (Mar 8) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
No readings taken at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 163.14 ug/$m^3$ with a maximum reading of 229.01 ug/$m^3$.
Station N had an average of 132.14 ug/$m^3$ with a maximum reading of 308.11 ug/$m^3$.

NYC / ER (Mar 7) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at one of the four locations, no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 8) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** **3/1/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/01/02 | TTW-01036 | W | 1088.5 | Air | 14.01 | 0.005 | 0 | ***1 | 13.33 | 0.0047 |
| 03/01/02 | TTW-01037 | E | 1150.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01038 | S | 1183 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/01/02 | TTW-01039 | V | 1084.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/01/02 | TTW-01040 | U | 997.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/01/02 | TTW-01041 | K | 1162.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/01/02 | TTW-01042 | D-Dup | 957.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 03/01/02 | TTW-01043 | D | 1149.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01044 | C | 1096.5 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0047 |
| 03/01/02 | TTW-01045 | B-Dup | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/01/02 | TTW-01046 | B | 1226.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/01/02 | TTW-01047 | A | 1174.7 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 03/01/02 | TTW-01048 | F | 1076.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/01/02 | TTW-01049 | Q | 1161.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/01/02 | TTW-01050 | J | 1240.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/01/02 | TTW-01051 | N | 1137.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/01/02 | TTW-01052 | M1 | 1188 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/01/02 | TTW-01053 | L | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |

*Please note the sampling route has been reversed*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 3/1/02 0715 to 2050

Data Validation Date: 03/5/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/01/02 | LF03153 | P-1 | 1195.10 | Air | 10.19 | 0.003 | ***1 | ***2 | 39.37 | 0.0127 |
| 03/01/02 | LF03154 | P-2 | 1060.50 | Air | <7.0 | <0.003 | ***1 | *****1 | 26.25 | 0.0095 |
| 03/01/02 | LF03155 | P-3 | 1032.90 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/01/02 | LF03156 | P-4 | 1110.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/01/02 | LF03157 | P-5 | 1188.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/01/02 | LF03158 | P-6 | 1210.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/01/02 | LF03159 | P-7 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/01/02 | LF03160 | P-8 | 1074.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/01/02 | LF03161 | W-12A | 1156.00 | Air | 7.64 | 0.003 | 0 | ***1 | 13.12 | 0.0044 |
| 03/01/02 | LF03162 | W-12B | 1110.40 | Air | 8.92 | 0.003 | ***1 | *****1 | 26.25 | 0.0091 |
| 03/01/02 | LF03163 | B-13 | 1184.90 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0043 |
| 03/01/02 | LF03164 | B-14 | 1147.50 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0044 |
| 03/01/02 | LF03166 | T-15 | 1108.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/01/02 | LF03167 | T-16 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/01/02 | LF03168 | O-17 | 1043.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/01/02 | LF03169 | O-18 | 942.40 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 03/01/02 | LF03170 | O-19 | 1091.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/01/02 | LF03171 | MPHS-20 | 1162.80 | Air | 10.19 | 0.003 | 0 | 0 | <13.12 | <0.0043 |
| 03/01/02 | LF03172 | B-13 Dup | 1120.30 | Air | <7.0 | <0.002 | ***2 | 0 | 26.25 | 0.0090 |
| 03/01/02 | LF03173 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/01/02 | LF03174 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/2/02 0740 to 2125

**Data Validation Date: 03/5/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/02/02 | LF03176 | P-2 | 987.70 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/02/02 | LF03177 | P-3 | 1076.10 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/23/02 | LF03178 | P-4 | 543.15 | Air | <7.0 | <0.005 | 0 | 0 | <6.56 | <0.0047 |
| 03/02/02 | LF03179 | P-5 | 1110.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/02/02 | LF03180 | P-6 | 1166.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/02/02 | LF03181 | P-7 | 1002.85 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/02/02 | LF03182 | P-7 Dup | 1100.55 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/02/02 | LF03183 | P-8 | 1052.70 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/02/02 | LF03184 | W-12A | 1174.70 | Air | 17.83 | 0.006 | 0 | 0 | <13.12 | <0.0043 |
| 03/02/02 | LF03185 | W-12B | 1063.30 | Air | 14.01 | 0.005 | 0 | 0 | <13.12 | <0.0048 |
| 03/02/02 | LF03186 | B-13 | 1123.70 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 03/02/02 | LF03187 | B-14 | 1144.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/02/02 | LF03188 | T-15 | 1188.00 | Air | 7.64 | 0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/02/02 | LF03189 | T-16 | 1191.75 | Air | 14.01 | 0.005 | 0 | 0 | <13.12 | <0.0042 |
| 03/02/02 | LF03190 | O-17 | 983.23 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/02/02 | LF03191 | O-18 | 672.10 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0045 |
| 03/02/02 | LF03192 | O-19 | 988.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/02/02 | LF03193 | MPHS-20 | 1016.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/02/02 | LF03194 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/02/02 | LF03195 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No sample submitted for LF03175 Location P1 due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0104 | | WTC-0105 | | WTC-0099 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 2780 | |
| Date Collected | | - | | - | | - | | 02/22/02 | | 02/22/02 | | 02/22/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.45 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.045 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.045 |
| Calcium | ICAP | 4.2 | 2.5 | 5.0 | 2.5 | 3.5 | 2.5 | U | 2.5 | U | 2.5 | U | 0.9 |
| Chromium | ICAP | 0.85 | 0.13 | 0.60 | 0.13 | 0.89 | 0.13 | 0.13 | 0.13 | U | 0.13 | U | 0.045 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.09 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.09 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.47 | 0.22 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 4.5 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.045 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.09 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 18 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.045 |
| Sodium | ICAP | U | 13 | 18 | 13 | U | 13 | U | 13 | U | 13 | U | 4.5 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.018 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.09 |
| Zinc | ICAP | 0.35 | 0.25 | 0.57 | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.09 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0100 | | WTC-0101 | | WTC-0102 | |
|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | |
| Air Volume (L) | | 4110 | | 6310 | | 4580 | |
| Date Collected | | 02/22/02 | | 02/22/02 | | 02/22/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.5 | 0.30 | 0.23 | 0.20 | 0.28 | 0.27 |
| Antimony | AA-Fur | U | 0.012 | U | 0.0079 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.012 | U | 0.0079 | U | 0.011 |
| Barium | ICAP | 0.03 | 0.03 | U | 0.02 | 0.042 | 0.027 |
| Beryllium | ICAP | U | 0.012 | U | 0.0079 | U | 0.011 |
| Cadmium | ICAP | U | 0.03 | U | 0.02 | U | 0.027 |
| Calcium | ICAP | 12 | 0.61 | 1.3 | 0.40 | 1.8 | 0.55 |
| Chromium | ICAP | U | 0.03 | U | 0.02 | U | 0.027 |
| Cobalt | ICAP | U | 0.061 | U | 0.04 | U | 0.055 |
| Copper | ICAP | 0.11 | 0.061 | U | 0.04 | U | 0.055 |
| Iron | ICAP | 2.7 | 0.15 | 0.44 | 0.099 | 1 | 0.14 |
| Lead | AA-Fur | 0.10 | 0.012 | 0.016 | 0.0079 | 0.02 | 0.011 |
| Magnesium | ICAP | U | 3.0 | U | 2.0 | U | 2.7 |
| Manganese | ICAP | 0.063 | 0.03 | U | 0.02 | U | 0.027 |
| Nickel | ICAP | U | 0.061 | U | 0.04 | U | 0.055 |
| Potassium | ICAP | U | 12 | U | 7.9 | U | 11 |
| Selenium | AA-Fur | U | 0.012 | U | 0.0079 | U | 0.011 |
| Silver | ICAP | U | 0.03 | U | 0.02 | U | 0.027 |
| Sodium | ICAP | U | 3.0 | U | 2.0 | U | 2.7 |
| Thallium | AA-Fur | U | 0.012 | U | 0.0079 | U | 0.011 |
| Vanadium | ICAP | U | 0.061 | U | 0.04 | U | 0.055 |
| Zinc | ICAP | 0.13 | 0.061 | U | 0.04 | U | 0.055 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/19/02**

| Sample No. | WG7116-1 | | | 06458 | | | 06457 | | | 06456 | | | 06455 | | | 06454 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | |
| Volume (Liters) | 0 | | | 7515 | | | 6885 | | | 6903 | | | 7335 | | | 7579.5 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0029 | U | | 0.0029 | U | | 0.0027 | U | | 0.0026 |
| 12378-PeCDD | 0.0017 J | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123478-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123678-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123789-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 1234678-HpCDD | U | 0.0040 | 0.10 | U | | 0.013 | U | 0.0006 | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| OCDD | U | 0.0136 | 0.20 | U | | 0.027 | U | 0.0026 | 0.029 | U | | 0.029 | U | | 0.027 | U | | 0.026 |
| 2378-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0029 | U | | 0.0029 | U | | 0.0027 | U | | 0.0026 |
| 12378-PeCDF | U | 0.0022 | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 23478-PeCDF | U | 0.0017 | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123478-HxCDF | U | 0.0019 | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123678-HxCDF | U | | 0.10 | U | | 0.013 | 0.0001 J | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 234678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123789-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 1234678-HpCDF | 0.0022 J | | 0.10 | 0.0005 J | | 0.013 | 0.0003 J | | 0.015 | 0.0003 J | | 0.014 | 0.0003 J | | 0.014 | 0.0004 J | | 0.013 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| OCDF | U | | 0.20 | U | | 0.027 | U | | 0.029 | U | | 0.029 | U | | 0.027 | U | | 0.026 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0017 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | 0.0003 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0003 | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0022 | | | 0.0005 | | | U | | | 0.0003 | | | 0.0003 | | | 0.0004 | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0009 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0399 | | | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0004 | | |

COC# 02/19/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/06/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-19-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/19/02**

| Sample No. | 06453 | | | 06450 | | | 06451 | | | 06449 | | | 06452 | | | 06459 | | | 06460 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | D Greenwich & Albany St. | | | Location E | | | Location P | | | R- TAGA | | | Location S | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7335 | | | 7155 | | | 7018 | | | 6534 | | | 7122.38 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0028 | U | | 0.0029 | U | | 0.0031 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | 0.0008 J | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | 0.0014 J | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.014 | U | 0.0007 | 0.014 | U | 0.0007 | 0.014 | U | | 0.015 | U | | 0.014 | 0.0055 J | | 0.10 | U | 0.0038 | 0.10 |
| OCDD | U | | 0.027 | U | 0.0019 | 0.028 | U | | 0.029 | U | | 0.031 | U | | 0.028 | U | | 0.20 | 0.0116 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0028 | U | | 0.0029 | U | | 0.0031 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.014 | 0.0003 J | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | 0.0012 | 0.10 |
| 234678-HxCDF | U | | 0.014 | 0.0001 | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0002 J | | 0.014 | U | | 0.014 | 0.0005 J | | 0.014 | U | 0.0004 | 0.015 | 0.0004 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.028 | U | | 0.029 | U | | 0.031 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | 0.0055 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | 0.0001 | | | 0.0005 | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0002 | | | U | | | 0.0005 | | | U | | | 0.0004 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0006 | | | 0.0399 | | | 0.0401 | | |

COC# 02/19/02 dioxin

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/26/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06575 | | 06576 | | 06577 | | 06578 | | 06579 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 835.43 | | 936 | | 960 | | 928.25 | | 879.45 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.7 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.1 | U | 0.97 | U | 0.95 | U | 0.98 | U | 1.0 |
| Pyrene | U | 1.1 | U | 0.97 | U | 0.95 | U | 0.98 | U | 1.0 |
| Benzo[a]anthracene | U | 0.96 | U | 0.86 | U | 0.84 | U | 0.87 | U | 0.91 |
| Chrysene | U | 0.96 | U | 0.86 | U | 0.84 | U | 0.87 | U | 0.91 |
| Benzo[b]fluoranthene | U | 0.87 | U | 0.78 | U | 0.76 | U | 0.78 | U | 0.83 |
| Benzo[k]fluoranthene | U | 0.87 | U | 0.78 | U | 0.76 | U | 0.78 | U | 0.83 |
| Benzo[e]pyrene | U | 0.87 | U | 0.78 | U | 0.76 | U | 0.78 | U | 0.83 |
| Benzo[a]pyrene | U | 0.87 | U | 0.78 | U | 0.76 | U | 0.78 | U | 0.83 |
| Indeno(1,2,3-c,d)pyrene | U | 0.80 | U | 0.71 | U | 0.69 | U | 0.72 | U | 0.76 |
| Dibenzo[a,h]anthracene | U | 0.79 | U | 0.70 | U | 0.69 | U | 0.71 | U | 0.75 |
| Benzo[g,h,i]perylene | U | 0.80 | U | 0.71 | U | 0.69 | U | 0.72 | U | 0.76 |

COC: 02/26/02-PAHs ERT: 3/6/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-26-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/26/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06580 | | 06581 | | 06582 | | 06583 | | 06584 | |
| Sampling Location | Location C | | Location B | | Location 3A | | Location A | | Location A | |
| | 760 | | 874 | | 936 | | 744.58 | | 936 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.9 | U | 1.6 | U | 1.5 | U | 1.9 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.7 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.7 | U | 1.4 |
| Biphenyl | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.6 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.6 | U | 1.3 |
| Acenaphthylene | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.6 | U | 1.3 |
| Acenaphthene | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.6 | U | 1.3 |
| Dibenzofuran | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.5 | U | 1.2 |
| Fluorene | U | 1.5 | U | 1.3 | U | 1.2 | U | 1.5 | U | 1.2 |
| Phenanthrene | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.4 | U | 1.1 |
| Anthracene | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.4 | U | 1.1 |
| Carbazole | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.5 | U | 1.2 |
| Fluoranthene | U | 1.2 | U | 1.00 | U | 0.97 | U | 1.2 | U | 0.97 |
| Pyrene | U | 1.2 | U | 1.00 | U | 0.97 | U | 1.2 | U | 0.97 |
| Benzo[a]anthracene | U | 1.1 | U | 0.92 | U | 0.86 | U | 1.1 | U | 0.86 |
| Chrysene | U | 1.1 | U | 0.92 | U | 0.86 | U | 1.1 | U | 0.86 |
| Benzo[b]fluoranthene | U | 0.96 | U | 0.83 | U | 0.78 | U | 0.98 | U | 0.78 |
| Benzo[k]fluoranthene | U | 0.96 | U | 0.83 | U | 0.78 | U | 0.98 | U | 0.78 |
| Benzo[e]pyrene | U | 0.96 | U | 0.83 | U | 0.78 | U | 0.98 | U | 0.78 |
| Benzo[a]pyrene | U | 0.96 | U | 0.83 | U | 0.78 | U | 0.98 | U | 0.78 |
| Indeno(1,2,3-c,d)pyrene | U | 0.87 | U | 0.76 | U | 0.71 | U | 0.89 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.87 | U | 0.75 | U | 0.70 | U | 0.89 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.87 | U | 0.76 | U | 0.71 | U | 0.89 | U | 0.71 |

COC: 02/26/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-26-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/26/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06585 | | 06586 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/26/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-26-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06537 | | 06538 | | 06539 | | 06540 | | 06541 | |
| Sampling Location | Location R | | Location R | | Location A | | Location 3A | | Location B | |
| Volume (L) | 828.75 | | 960 | | 948 | | 914.43 | | 869.7 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.7 | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.4 | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.4 | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 1.1 | U | 0.95 | U | 0.96 | U | 0.99 | U | 1.0 |
| Pyrene | U | 1.1 | U | 0.95 | U | 0.96 | U | 0.99 | U | 1.0 |
| Benzo[a]anthracene | U | 0.97 | U | 0.84 | U | 0.85 | U | 0.88 | U | 0.92 |
| Chrysene | U | 0.97 | U | 0.84 | U | 0.85 | U | 0.88 | U | 0.92 |
| Benzo[b]fluoranthene | U | 0.88 | U | 0.76 | U | 0.77 | U | 0.80 | U | 0.84 |
| Benzo[k]fluoranthene | U | 0.88 | U | 0.76 | U | 0.77 | U | 0.80 | U | 0.84 |
| Benzo[e]pyrene | U | 0.88 | U | 0.76 | U | 0.77 | U | 0.80 | U | 0.84 |
| Benzo[a]pyrene | U | 0.88 | U | 0.76 | U | 0.77 | U | 0.80 | U | 0.84 |
| Indeno(1,2,3-c,d)pyrene | U | 0.80 | U | 0.69 | U | 0.70 | U | 0.73 | U | 0.76 |
| Dibenzo[a,h]anthracene | U | 0.80 | U | 0.69 | U | 0.70 | U | 0.72 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 0.80 | U | 0.69 | U | 0.70 | U | 0.73 | U | 0.76 |

COC: 02/14/02-PAHs ERT: 3/6/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06542 | | 06543 | | 06544 | | 06545 | | 06546 | |
| Sampling Location | Location C | | Location D | | Location S | | Location P | | Location E | |
| | 936 | | 744.98 | | 948 | | 815.68 | | 876.9 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.9 | U | 1.5 | U | 1.8 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.7 | U | 1.4 | U | 1.6 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.7 | U | 1.4 | U | 1.6 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.6 | U | 1.3 | U | 1.5 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.6 | U | 1.2 | U | 1.4 | U | 1.3 |
| Acenaphthylene | U | 1.3 | U | 1.6 | U | 1.3 | U | 1.5 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.6 | U | 1.3 | U | 1.5 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.5 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.5 | U | 1.2 | U | 1.4 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.4 | U | 1.1 | U | 1.3 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.4 | U | 1.1 | U | 1.3 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.5 | U | 1.2 | U | 1.3 | U | 1.3 |
| Fluoranthene | U | 0.97 | U | 1.2 | U | 0.96 | U | 1.1 | U | 1.0 |
| Pyrene | U | 0.97 | U | 1.2 | U | 0.96 | U | 1.1 | U | 1.0 |
| Benzo[a]anthracene | U | 0.86 | U | 1.1 | U | 0.85 | U | 0.99 | U | 0.92 |
| Chrysene | U | 0.86 | U | 1.1 | U | 0.85 | U | 0.99 | U | 0.92 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.98 | U | 0.77 | U | 0.89 | U | 0.83 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.98 | U | 0.77 | U | 0.89 | U | 0.83 |
| Benzo[e]pyrene | U | 0.78 | U | 0.98 | U | 0.77 | U | 0.89 | U | 0.83 |
| Benzo[a]pyrene | U | 0.78 | U | 0.98 | U | 0.77 | U | 0.89 | U | 0.83 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.89 | U | 0.70 | U | 0.81 | U | 0.76 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.89 | U | 0.70 | U | 0.81 | U | 0.75 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.89 | U | 0.70 | U | 0.81 | U | 0.76 |

COC: 02/14/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/14/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06547 | | 06548 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/14/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-14-02PAH.xls

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 8, 2002

| Location | L | N | R* |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | - |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | - |
| **Start Time** | 0641 | 0644 | - |
| **Stop Time** | 1450 | 1453 | - |
| **Run Time (minutes)** | 489 | 489 | - |
| **Maximum Concentration ($ug/m^3$)** | 229.01 | 308.11 | - |
| **Average Concentration ($ug/m^3$)** | 163.14 | 132.14 | - |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 7, 2002

| Location | L | N | R* |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | - |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | - |
| **Start Time** | 0652 | 0656 | - |
| **Stop Time** | 1500 | 1503 | - |
| **Run Time (minutes)** | 488 | 487 | - |
| **Maximum Concentration ($ug/m^3$)** | 345.02 | 153.19 | - |
| **Average Concentration ($ug/m^3$)** | 50.21 | 32.28 | - |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/08/02**

| File Name | NYC1234 | NYC1235 | NYC1236 | NYC1237 | NYC1239 | NYC1238 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07570 | A07571 | A07572 | A07573 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/07/02**

| File Name | NYC1226 | NYC1227 | NYC1228 | NYC1229 | NYC1231 | NYC1230 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07566 | A07567 | A07569 | A07568 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | 21 | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, March 12, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:45 p.m. on March 12**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 19 samples taken in and around ground zero on March 2. EPA also sampled for asbestos at two additional lower Manhattan locations on February 26, February 27, and March 1. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 6,648, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside Lower Manhattan:**

**Asbestos** - Samples were collected from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island) on February 26, February 27, and March 1. None showed exceedances of the AHERA re-entry standard.

**Staten Island Landfill:**

**Air (Asbestos)** - Nineteen air samples collected on February 28 were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on March 9, 10, and 11 at Location "L" (northeast side of Stuyvesant High School) and Location "N" (south side of Pier 25). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 9, 10, and 11 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 9, 10, and 11 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOCs.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, March 12, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 2, 0001 - 1200 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20)

Results pending.

Fresh Kills (Feb 23)

Results pending.

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 27)

Results pending.

Fresh Kills (Feb 28, 0716 - 2027 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 12) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Feb 21) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Feb 24 - 25) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Feb 26 - 27) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 28) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 1) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 9) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
No readings taken at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 110.87 ug/$m^3$ with a maximum reading of 241.90 ug/$m^3$.
Station N had an average of 75.12 ug/$m^3$ with a maximum reading of 397.07 ug/$m^3$.

NYC / ER (Mar 10) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
No readings taken at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 11.40 ug/$m^3$ with a maximum reading of 139.33 ug/$m^3$.
Station N had an average of 8.20 ug/$m^3$ with a maximum reading of 77.23 ug/$m^3$.

NYC / ER (Mar 11) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L and N) were below the OSHA TWA.
No readings taken at Location R due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station L had an average of 8.87 ug/$m^3$ with a maximum reading of 39.22 ug/$m^3$.
Station N had an average of 8.53 ug/$m^3$ with a maximum reading of 44.09 ug/$m^3$.

NYC / ER (Mar 9) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 10) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 11) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/2/02 0001 to 1200

**Data Validation Date: 03/03/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/02/02 | TTW-01054 | W | 1046.5 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/02/02 | FB030202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/02/02 | TB030202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/02/02 | TTW-01055 | E | 969.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/02/02 | TTW-01056 | S | 963.9 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 03/02/02 | TTW-01057 | V | 1077.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/02/02 | TTW-01058 | U | 1018.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 03/02/02 | TTW-01059 | K | 1116.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/02/02 | TTW-01060 | D | 915.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0048 |
| 03/02/02 | TTW-01061 | C-Dup | 1003 | Air | 7.01 | 0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/02/02 | TTW-01062 | C | 1076.1 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0041 |
| 03/02/02 | TTW-01063 | B | 1028.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 03/02/02 | TTW-01064 | A | 253.3 | Air | <7.0 | <0.011 | 0 | 0 | <8.00 | <0.0122 |
| 03/02/02 | TTW-01065 | F | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/02/02 | TTW-01066 | Q-Dup | 983.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/02/02 | TTW-01067 | Q | 1123.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/02/02 | TTW-01068 | J | 986 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/02/02 | TTW-01069 | N | 1077.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/02/02 | TTW-01070 | M1 | 974.1 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/02/02 | TTW-01071 | L | 1044.45 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-02-02-am.xls

NYC Response
Asbestos Air Sampling Results for Staten Island Landfill
Sampling Date and Times: 2/28/02 0716 to 2027

Data Validation Date: 03/1/2002

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 02/28/02 | LF03132 | P-1 | 1079.75 | Air | <7.0 | <0.003 | ***2 | ***1 | 39.37 | 0.0140 |
| 02/28/02 | LF03133 | P-2 | 1006.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/23/02 | LF03134 | P-3 | 1096.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/28/02 | LF03135 | P-4 | 828.30 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0046 |
| 02/28/02 | LF03136 | P-5 | 1159.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/28/02 | LF03137 | P-6 | 1084.90 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/28/02 | LF03138 | P-7 | 1016.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 02/28/02 | LF03139 | P-8 | 1142.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/28/02 | LF03140 | P-8 Dup | 1144.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/28/02 | LF03141 | W-12A | 1127.00 | Air | 78.98 | 0.027 | 0 | ***2 | 26.25 | 0.0090 |
| 02/28/02 | LF03142 | W-12B | 1198.50 | Air | 15.29 | 0.005 | ***1 | ***1 | 26.25 | 0.0084 |
| 02/28/02 | LF03143 | B-13 | 1089.60 | Air | 15.29 | 0.005 | 0 | 0 | <13.12 | <0.0046 |
| 02/28/02 | LF03144 | B-14 | 1077.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/28/02 | LF03145 | T-15 | 1132.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/28/02 | LF03146 | T-16 | 1224.00 | Air | 11.46 | 0.004 | 0 | 0 | <13.12 | <0.0041 |
| 02/28/02 | LF03147 | O-17 | 1048.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/28/02 | LF03148 | O-18 | 1059.10 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/28/02 | LF03149 | O-19 | 1060.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/28/02 | LF03150 | MPHS-20 | 1169.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/28/02 | LF03151 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/28/02 | LF03152 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-28-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/2/02**
**Sampling Date and Time: 2/26/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/26/02 | 7093-18-0152 | Park Row | 1344 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/26/02 | 7093-19-0152 | Chambers Street | 1262 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 02/26/02 | 7093-15-0150 | I.S. 143 Manhattan | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/26/02 | 7094-09-0140 | P.S. 154 (Bronx) | 1290 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 02/26/02 | 7096-12-0146 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/26/02 | 7095-98-0146 | P.S. 274 (Brooklyn) | 1328 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 02/26/02 | 7097-18-0143 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/6/02**
**Sampling Date and Time: 2/27/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/27/02 | 7093-18-0153 | Park Row | 1256 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 02/27/02 | 7093-19-0153 | Chambers Street | 1312 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 02/27/02 | 7093-15-0151 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/27/02 | 7094-09-0141 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/27/02 | 7096-12-0147 | P.S. 199 (Queens) | 1398 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/27/02 | 7095-98-0147 | P.S. 274 (Brooklyn) | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/27/02 | 7097-18-0144 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/6/02**
**Sampling Date and Time: 3/1/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/01/02 | 7093-18-0155 | Park Row | 1354 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0045 |
| 03/01/02 | 7093-19-0155 | Chambers Street | 1382 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/01/02 | 7093-15-0153 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 03/01/02 | 7094-09-0143 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 03/01/02 | 7096-12-0149 | P.S. 199 (Queens) | 1210 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/01/02 | 7095-98-0149 | P.S. 274 (Brooklyn) | 1320 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/01/02 | 7097-18-0146 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 11, 2002

| Location | L | N | R* |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | - |
| Flow Rate (liters/minute) | 2.0 | 2.0 | - |
| Start Time | 0651 | 0654 | - |
| Stop Time | 1455 | 1459 | - |
| Run Time (minutes) | 484 | 485 | - |
| Maximum Concentration ($ug/m^3$) | 39.22 | 44.09 | - |
| Average Concentration ($ug/m^3$) | 8.87 | 8.53 | - |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 10, 2002

| Location | L | N | R* |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | - |
| **Flow Rate (liters/minute)** | 1.0 | 1.0 | - |
| **Start Time** | 0652 | 0653 | - |
| **Stop Time** | 1501 | 1508 | - |
| **Run Time (minutes)** | 489 | 495 | - |
| **Maximum Concentration ($ug/m^3$)** | 139.33 | 77.23 | - |
| **Average Concentration ($ug/m^3$)** | 11.40 | 8.20 | - |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 9, 2002

| Location | L | N | R* |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | - |
| Flow Rate (liters/minute) | 2.0 | 2.0 | - |
| Start Time | 0709 | 0712 | - |
| Stop Time | 1502 | 1505 | - |
| Run Time (minutes) | 473 | 473 | - |
| Maximum Concentration ($ug/m^3$) | 241.90 | 397.07 | - |
| Average Concentration ($ug/m^3$) | 110.87 | 75.12 | - |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/11/02**

| File Name | NYC1258 | NYC1259 | NYC1260 | NYC1261 | NYC1263 | NYC1262 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07582 | A07583 | A07584 | A07585 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/10/02**

| File Name | NYC1250 | NYC1251 | NYC1252 | NYC1253 | NYC1255 | NYC1254 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07578 | A07579 | A07580 | A07581 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/09/02**

| File Name | NYC1242 | NYC1243 | NYC1244 | NYC1245 | NYC1247 | NYC1246 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07574 | A07575 | A07577 | A07576 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, March 13, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 6:00 p.m. on March 13**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 141 samples taken in and around ground zero from March 2 through March 6. EPA also sampled for asbestos at two additional lower Manhattan locations on February 21, February 24 and 25, February 28 and March 2. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 6,798, with 17 samples above the standard (11 of these were collected prior to September 30; the other six were collected on October 9, November 27, December 27, January 14, February 5 and February 11).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Air: Fixed Monitors outside Lower Manhattan:**

**Asbestos** - Samples were collected on February 21, February 24 and 25, February 28 and March 2 from additional asbestos monitors at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard. (Note: No sample was taken at P.S. 44 on February 21.)

**Staten Island Landfill:**

**Air (Asbestos)** - A total of 40 air samples collected on February 20 and February 23 were analyzed for asbestos. All samples were below the school re-entry standard.

**Bulk Dust Sampling (Asbestos)** - A total of 47 bulk samples were collected from the landfill sift and barge unloading areas at the Staten Island Landfill on February 1, 8, 12, 16, 20, 22 and 26, and on March 1. One sample, collected on March 1 at the barge area (Location "B-14"), showed asbestos at 1.2%. Asbestos in all other samples was either not detected, or was less than 1%.

**Ambient Air Samples:**

**Particulate Monitoring** - EPA used portable monitors to collect samples on March 12 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 12 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 12 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOCs.

**Bulk Soil Sampling:**

Five bulk soil samples were collected from the excavation area at ground zero on December 19 and were analysed for VOCs, semi-VOC's, pesticides, PCBs, dioxin, metals (including mercury) and cyanide.

One of the five samples contained PCBs at a level of 2.28 ppm, which is above the EPA residential cleanup guideline of 1 ppm.

The same sample also contained benzo(a)pyrene at a concentration of 25.1 ppm, which is above the EPA removal action guidance levels based on a 30-year exposure. However, when adjusted to a 1-year exposure, the level was below the EPA removal action guidance levels.

All other analytical parameters were either not detected or were below applicable EPA removal action guidance levels.

**Bulk Dust Sampling (Asbestos):**

Eight bulk samples were collected from the volleyball area at Pier 25 in Lower Manhattan on February 15. Asbestos was not detected in any of these samples.

One bulk sample was collected from the roof of a trailer near Warren & West Streets in Lower Manhattan on January 23. This sample contained less than 1% asbestos.

Three bulk samples were collected from Pier 6 in Lower Manhattan on January 23. Asbestos was not detected in any of these samples.

**Water Sampling:**

Two samples were collected on January 10 from a pool of water at the base of the excavation area at ground zero and analyzed for metals (cadmium, copper, lead, mercury, nickel and zinc), PCBs, VOCs, total petroleum hydrocarbons, hexavalent chromium, flashpoint, total suspended solids, temperature, and pH. No levels of significance were noted.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, March 13, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 2, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations L and M-1) were not collected due to equipment malfunctions.

NYC / ER (Mar 3, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 3, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 4, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 4, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 5, 0001 - 1142 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 5, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 6, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location M-1) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 20, 0739 - 2134 hrs)

All 20 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 23, 0658 - 1946 hrs)

All 20 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 27)

Results pending.

Ambient Air Sampling Locations

NYC / ER (Feb 21) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:

- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 6 samples were collected from these monitoring sites.
1 sample (Site 8) was considered invalid due to an equipment malfunction.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 24 - 25) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 13 samples were collected from these monitoring sites.
1 sample (Site 1) was not collected due to an equipment malfunction.
All of the samples were below the TEM AHERA standard.

NYC / ER (Feb 28) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 2) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 12) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 53.13 ug/$m^3$ with a maximum reading of 204.62 ug/$m^3$.
Station N had an average of 42.17 ug/$m^3$ with a maximum reading of 69.81 ug/$m^3$.
Station R had an average of 40.70 ug/$m^3$ with a maximum reading of 63.49 ug/$m^3$.

NYC / ER (Mar 12) - Volatile Organics (Mobile Laboratory)

No volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

Fresh Kills (Feb 20) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at trace levels in all of the samples.

Fresh Kills (Feb 22) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was not detected in all of the samples.

Fresh Kills (Feb 26) - Asbestos

6 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile or 1% amosite in all of the samples.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/2/02 1200 to 2359

**Data Validation Date: 03/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/02/02 | TTW-01072 | W | 1179 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/02/02 | TTW-01073 | E | 1281.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/02/02 | TTW-01074 | S | 1238.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/02/02 | TTW-01075 | U | 1177.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/02/02 | TTW-01076 | V | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 03/02/02 | TTW-01077 | K | 1218 | Air | 9.55 | 0.003 | 0 | 0 | <13.33 | <0.0042 |
| 03/02/02 | TTW-01078 | D | 1121.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/02/02 | TTW-01079 | C | 1244.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/02/02 | TTW-01080 | C-Dup | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/02/02 | TTW-01081 | B | 1256.4 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/02/02 | TTW-01082 | A | 1191.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/02/02 | TTW-01083 | F | 1090.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/02/02 | TTW-01084 | Q | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/02/02 | TTW-01085 | J | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/02/02 | TTW-01086 | J-Dup | 1251 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/02/02 | TTW-01087 | N | 1215 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |

*No sample submitted for Location M-1 Due to flow fault*
*No sample submitted for Location L due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C1: SW corner of Broadway & Liberty St.
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E: Western end of Liberty St. at South End Ave
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G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/06/2002**
**Sampling Date and Time:** **3/3/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/03/02 | TTW-01088 | W | 1128.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/03/02 | FB030302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/03/02 | TB030302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/03/02 | TTW-01089 | E | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/03/02 | TTW-01090 | S | 1211.4 | Air | <7.0 | <0.002 | 1*** | 0 | 13.33 | 0.0042 |
| 03/03/02 | TTW-01091 | V | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/03/02 | TTW-01092 | V- Dup | 1065.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/03/02 | TTW-01093 | U | 1144.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/03/02 | TTW-01094 | K | 1182.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/03/02 | TTW-01095 | K- Dup | 1191.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/03/02 | TTW-01096 | D | 1124.8 | Air | <7.0 | <0.002 | 0 | 1*** | 13.33 | 0.0046 |
| 03/03/02 | TTW-01097 | C | 1074.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/03/02 | TTW-01098 | B | 1074.5 | Air | <7.0 | <0.003 | 1*** | 0 | 13.33 | 0.0048 |
| 03/03/02 | TTW-01099 | A | 1169 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/03/02 | TTW-01100 | F | 1148.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/03/02 | TTW-01101 | Q | 1195.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/03/02 | TTW-01102 | J | 1247.4 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/03/02 | TTW-01103 | N | 1072.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0041 |
| 03/03/02 | TTW-01104 | M1 | 1148.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/03/02 | TTW-01105 | L | 1078.2 | Air | <7.0 | <0.002 | 1*** | 0 | 13.33 | 0.0048 |

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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-03-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/01/2002**
**Sampling Date and Time:** 3/4/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/04/02 | FB03/04/02 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/04/02 | TB03/04/02 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/04/02 | TTW-01124 | E | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/04/02 | TTW-01125 | S | 1157.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | TTW-01126 | U | 1182.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01127 | V | 1179.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01128 | K | 1022.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0042 |
| 03/04/02 | TTW-01129 | D | 1089.65 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0040 |
| 03/04/02 | TTW-01130 | D-Dup | 1137.6 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | TTW-01131 | C | 1094.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0040 |
| 03/04/02 | TTW-01132 | B | 1113 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0045 |
| 03/04/02 | TTW-01133 | A | 1018.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/04/02 | TTW-01134 | A-Dup | 1120 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/04/02 | TTW-01135 | F | 1038.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0042 |
| 03/04/02 | TTW-01136 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0037 |
| 03/04/02 | TTW-01137 | J | 1195.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/04/02 | TTW-01138 | N | 1169 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01139 | M1 | 950.4 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0040 |
| 03/04/02 | TTW-01140 | L | 1094.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0040 |
| 03/04/02 | TTW-01141 | W | 1125 | Air | 53.50 | 0.018 | 0 | 0 | <13.12 | <0.0045 |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/1/02**
**Sampling Date and Time:** 3/3/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/03/02 | TTW-01106 | L | 1003 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/03/02 | TTW-01107 | M1 | 1195.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/03/02 | TTW-01108 | N | 1085.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/03/02 | TTW-01109 | J | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | TTW-01110 | Q | 1179.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/03/02 | TTW-01111 | F | 1168.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/03/02 | TTW-01112 | A | 1137.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/03/02 | TTW-01113 | C | 1216.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/03/02 | TTW-01114 | B | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | TTW-01115 | D | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | TTW-01116 | K | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/03/02 | TTW-01117 | U | 943.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 03/03/02 | TTW-01118 | V | 1148.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/03/02 | TTW-01119 | S | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/03/02 | TTW-01120 | S-Dup | 1184.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/03/02 | TTW-01121 | E | 1159.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/03/02 | TTW-01122 | E-Dup | 1256.4 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | TTW-01123 | W | 1296 | Air | 135.03 | 0.040 | ***1 | ***1 | 31.5 | 0.0094 |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/7/02**
**Sampling Date and Time:** 3/4/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 03/04/02 | TTW-01142 | E | 1110.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/04/02 | TTW-01143 | K | 1212.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/04/02 | TTW-01144 | S | 1254.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/04/02 | TTW-01145 | U | 1264.6 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/04/02 | TTW-01146 | V | 1153.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | TTW-01147 | D | 1074.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/04/02 | TTW-01148 | C | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/04/02 | TTW-01149 | B | 1278.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/04/02 | TTW-01150 | A | 1071 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/04/02 | TTW-01151 | F | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/04/02 | TTW-01152 | Q | 1184.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01153 | J | 1181.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01154 | N | 1195.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/04/02 | TTW-01155 | M1 | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/04/02 | TTW-01156 | M1-Dup | 1170.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01157 | L | 1300.55 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/04/02 | TTW-01158 | L-Dup | 1172.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | TTW-01159 | W | 1213.2 | Air | 52.23 | 0.017 | 0 | *****1 | 15.75 | 0.0050 |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-03-04-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/07/2002**
**Sampling Date and Time: 3/5/02 0001 to 1142**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/05/02 | FB030502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/05/02 | TB030502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/05/02 | TTW-01160 | E | 1056.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/05/02 | TTW-01161 | K | 1263.6 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/05/02 | TTW-01162 | S | 995.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/05/02 | TTW-01163 | E-Dup | 961.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/05/02 | TTW-01164 | U | 1144.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/05/02 | TTW-01165 | V | 1031.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/05/02 | TTW-01166 | D | 479.15 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0063 |
| 03/05/02 | TTW-01167 | C | 1085.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/05/02 | TTW-01168 | B | 1031.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/05/02 | TTW-01169 | A | 1051.2 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/05/02 | TTW-01170 | F | 1216.8 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/05/02 | TTW-01171 | Q | 1187.7 | Air | 10.19 | 0.003 | 0 | 0 | <13.12 | <0.0043 |
| 03/05/02 | TTW-01172 | J | 1077.3 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/05/02 | TTW-01173 | N | 1122.95 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/05/02 | TTW-01174 | N-Dup | 1137.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/05/02 | TTW-01175 | M1 | 970.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/05/02 | TTW-01176 | L | 1083.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/05/02 | TTW-01177 | W | 1188.25 | Air | 34.39 | 0.011 | 0 | 0 | <13.12 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1: West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysolite
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/8/02**
**Sampling Date and Time:** **3/5/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/05/02 | TTW-01178 | E | 1240.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/05/02 | TTW-01179 | K | 1204.2 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0043 |
| 03/05/02 | TTW-01180 | S | 1132.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/05/02 | TTW-01181 | S- Dup | 1150.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/05/02 | TTW-01182 | U | 1191.6 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0043 |
| 03/05/02 | TTW-01183 | V | 1122.95 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/05/02 | TTW-01184 | D | 1146.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/05/02 | TTW-01185 | C | 1254.6 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/05/02 | TTW-01186 | B | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/05/02 | TTW-01187 | A | 1080 | Air | <7.0 | <0.002 | ***2 | 0 | 26.67 | 0.0095 |
| 03/05/02 | TTW-01188 | A-Dup | 1166.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/05/02 | TTW-01189 | F | 1206 | Air | <7.0 | <0.002 | ***1 | ***1 | 26.67 | 0.0085 |
| 03/05/02 | TTW-01190 | Q | 1191.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/05/02 | TTW-01191 | J | 1279.2 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/05/02 | TTW-01192 | N | 1056.6 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/05/02 | TTW-01193 | M1 | 1050 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/05/02 | TTW-01194 | L | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/05/02 | TTW-01195 | W | 1252.8 | Air | 14.65 | 0.005 | 0 | 0 | <16.00 | <0.0049 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on free next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-05-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/08/2002**
**Sampling Date and Time: 3/6/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/06/02 | FB030602 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/06/02 | TB030602 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/06/02 | TTW-01196 | E | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 03/06/02 | TTW-01197 | S | 1002.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/06/02 | TTW-01198 | U | 1079.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/06/02 | TTW-01199 | V | 1240.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/06/02 | TTW-01200 | K | 1037.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 03/06/02 | TTW-01201 | K-Dup | 1168.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | TTW-01202 | D | 1041.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 03/06/02 | TTW-01203 | C | 982.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/06/02 | TTW-01204 | B | 1060.2 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0048 |
| 03/06/02 | TTW-01205 | A | 1045.8 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 03/06/02 | TTW-01206 | F | 1159.2 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | TTW-01207 | Q | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/06/02 | TTW-01208 | N | 993.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/06/02 | TTW-01209 | L | 1144.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/06/02 | TTW-01210 | J | 1193 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/06/02 | TTW-01211 | J-Dup | 1087.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/06/02 | TTW-01212 | W | 1178.45 | Air | 10.19 | 0.003 | 0 | 0 | <13.33 | <0.0044 |

*No Sample submitted for Location M1 due to flow fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/20/02 0739 to 2134**

**Data Validation Date: 02/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Volume | Sampling Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/20/02 | LF02956 | P-1 | 1291.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/20/02 | LF02957 | P-2 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/20/02 | LF02958 | P-3 | 1402.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/20/02 | LF02959 | P-4 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/20/02 | LF02960 | P-5 | 1410.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0043 |
| 02/20/02 | LF02961 | P-6 | 1144.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/20/02 | LF02962 | P-7 | 1294.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/20/02 | LF02963 | P-8 | 1254.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/20/02 | LF02964 | W-11 | 1440.00 | Air | 15.29 | 0.004 | 0 | 0 | <15.75 | <0.0042 |
| 02/20/02 | LF02965 | W-12A | 1459.50 | Air | 34.39 | 0.009 | 0 | 0 | <15.75 | <0.0042 |
| 02/20/02 | LF02966 | W-12B | 1386.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/20/02 | LF02967 | B-13 | 1252.10 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/20/02 | LF02968 | B-14 | 1232.10 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 02/20/02 | LF02969 | T-15 | 1728.00 | Air | 15.29 | 0.003 | 0 | 0 | <19.69 | <0.0044 |
| 02/20/02 | LF02970 | T-16 | 1440.00 | Air | 22.93 | 0.006 | 0 | 0 | <15.75 | <0.0042 |
| 02/20/02 | LF02971 | O-17 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/20/02 | LF02972 | O-18 | 1288.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/20/02 | LF02973 | O-19 | 1276.50 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/20/02 | LF02974 | MPHS-20 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/20/02 | LF02975 | P-1D | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/20/02 | LF02976 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/20/02 | LF02977 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-20-02 rev2.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 2/23/02 0658 to 1946**

**Data Validation Date: 02/26/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/23/02 | LF03022 | P-1 | 949.65 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/23/02 | LF03023 | P-2 | 1111.50 | Air | <7.0 | <0.002 | ***1 | 0 | 39.37 | 0.0136 |
| 02/23/02 | LF03024 | P-2 Duplicate | 210.00 | Air | <7.0 | <0.013 | 0 | 0 | <7.87 | <0.0144 |
| 02/23/02 | LF03025 | P-3 | 1268.95 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/23/02 | LF03026 | P-4 | 1224.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/23/02 | LF03027 | P-5 | 387.00 | Air | <7.0 | <0.007 | 0 | 0 | <4.92 | <0.0049 |
| 02/23/02 | LF03028 | P-6 | 1068.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/23/02 | LF03029 | P-7 | 608.85 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0050 |
| 02/23/02 | LF03030 | P-8 | 1158.25 | Air | <7.0 | <0.002 | ***2 | 0 | 26.25 | 0.0087 |
| 02/23/02 | LF03031 | W-11 | 1118.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/23/02 | LF03032 | W-12A | 1440.00 | Air | 17.83 | 0.005 | ***1 | 0 | 15.75 | 0.0042 |
| 02/23/02 | LF03033 | W-12B | 1012.05 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0050 |
| 02/23/02 | LF03034 | B-13 | 1119.30 | Air | <7.0 | <0.002 | 0 | ***1 | 13.12 | 0.0045 |
| 02/23/02 | LF03035 | B-14 | 244.00 | Air | <7.0 | <0.011 | 0 | 0 | <3.15 | <0.0050 |
| 02/23/02 | LF03036 | T-15 | 1248.00 | Air | 17.83 | 0.006 | 0 | 0 | <15.75 | <0.0049 |
| 02/23/02 | LF03037 | T-16 | 1025.70 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/23/02 | LF03038 | O-17 | 1252.55 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 02/23/02 | LF03039 | O-18 | 1192.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 02/23/02 | LF03040 | O-19 | 1130.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/23/02 | LF03041 | MPHS-20 | 388.05 | Air | <7.0 | <0.007 | 0 | 0 | <7.87 | <0.0078 |
| 02/23/02 | LF03043 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 02/23/02 | LF03044 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-02-23-02 rev2.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 2/21/02 1200 to 2400**

**Data Validation Date: 02/26/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/21/02 | 7093-18-0147 | Park Row | 1288 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 02/21/02 | 7093-19-0147 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/21/02 | 7093-15-0145 | I.S. 143 Manhattan | 1364 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 02/21/02 | 7094-09-0135 | P.S. 154 (Bronx) | 1386 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 02/21/02 | 7096-12-0141 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/21/02 | 7095-98-0141 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 02/21/02 | 7097-18-0138 | P.S. 44 (S.I) | n/a | Air | R | R | R | R | R | R |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable
R - Sample data rejected due to no sample volume

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/2/02**
**Sampling Date and Time: 2/24/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/24/02 | 7093-18-0150 | Park Row | 1298 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 02/24/02 | 7093-19-0150 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/24/02 | 7093-15-0148 | I.S. 143 Manhattan | 1214 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/24/02 | 7094-09-0138 | P.S. 154 (Bronx) | 1308 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 02/24/02 | 7095-98-0144 | P.S. 274 (Brooklyn) | 1010 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/24/02 | 7096-12-0144 | P.S. 199 (Queens) | 1382 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 02/24/02 | 7097-18-0141 | P.S. 44 (S I) | 1090 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/6/02**
**Sampling Date and Time:** **2/25/02** **1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/25/02 | 7093-19-0151 | Chambers Street | 1124 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/25/02 | 7093-15-0149 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/25/02 | 7094-09-0139 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/25/02 | 7096-12-0145 | P.S. 199 (Queens) | 1432 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/25/02 | 7095-98-0145 | P.S. 274 (Brooklyn) | 1400 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 02/25/02 | 7097-18-0142 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/6/02**
**Sampling Date and Time: 2/28/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 02/28/02 | 7093-18-0154 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 02/28/02 | 7093-19-0154 | Chambers Street | 1172 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/28/02 | 7093-15-0152 | I.S. 143 Manhattan | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <19.69 | <0.0064 |
| 02/28/02 | 7094-09-0142 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0035 |
| 02/28/02 | 7096-12-0148 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0035 |
| 02/28/02 | 7095-98-0148 | P.S. 274 (Brooklyn) | 982 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/28/02 | 7097-18-0145 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0035 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/6/02**
**Sampling Date and Time: 3/2/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/02/02 | 7093-18-0156 | Park Row | 1202 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/02/02 | 7093-19-0156 | Chambers Street | 1400 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 03/02/02 | 7093-15-0154 | I.S. 143 Manhattan | 1118 | Air | NA | NA | NA | NA | NA | NA |
| 03/02/02 | 7094-09-0144 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 03/02/02 | 7096-12-0150 | P.S. 199 (Queens) | 1210 | Air | NA | NA | NA | NA | NA | NA |
| 03/02/02 | 7095-98-0150 | P.S. 274 (Brooklyn) | 1280 | Air | NA | NA | NA | NA | NA | NA |
| 03/02/02 | 7097-18-0147 | P.S. 44 (S I) | 1236 | Air | NA | NA | NA | NA | NA | NA |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable
NA- Not Analyzed due to wet filter

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/20/02

| | | | | | PLM by ELAP 198.1 | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/20/02 | 05973 | B-13 | Soil | None | 35% Cellulose | 25 % Quartz |
| | | | | | 10% Fiber Glass | 30% Other |
| 02/20/02 | 05974 | B-13 | Soil | None | 40 % Cellulose | 25 % Quartz |
| | | | | | 15% Fiber Glass | 20% Other |
| 02/20/02 | 05975 | B-14 | Soil | None | 40% Cellulose | 20 % Quartz |
| | | | | | 10% Fiber Glass | 30% Other |
| 02/20/02 | 05976 | B-14 | Soil | None | 40% Cellulose | 20 % Quartz |
| | | | | | 10% Fiber Glass | 30% Other |
| 02/20/02 | 05977 | Stockpile - Sifter # 3 | Soil | None | 45% Cellulose | 25 % Other |
| | | | | | 15% Fiber Glass | |
| | | | | | 15% Synthetic | |
| 02/20/02 | 05978 | LF-BLDG 7 Pile West | Soil | Trace Amosite | 40% Cellulose | 50% Other |
| | | | | | 10% Fiber Glass | |
| | | | | | Trace Synthetic | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/22/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/22/02 | 05979 | Sifter # 2 | Soil | None | 7% Cellulose | 89% Other |
| | | | | | 4% Fiber Glass | |
| 02/22/02 | 05980 | Stockpile Bldg # 7 | Soil | None | 8 % Cellulose | 87% Other |
| | | | | | 5% Fiber Glass | |
| 02/22/02 | 05981 | B-14 | Soil | None | 7% Cellulose | 88% Other |
| | | | | | 5% Fiber Glass | |
| 02/22/02 | 05982 | B-14 | Soil | None | 6% Cellulose | 91% Other |
| | | | | | 3% Fiber Glass | |
| 02/22/02 | 05983 | B-13 | Soil | None | 8% Cellulose | 88 % Other |
| | | | | | 4% Fiber Glass | |
| 02/22/02 | 05984 | B-13 | Soil | None | 7% Cellulose | 89% Other |
| | | | | | 4% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 2/26/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 02/26/02 | 05985 | LF-Bldg 7 Pile | Soil | 0.53% Chrysotile <1% Amosite | 40% Cellulose | 34.47% Other |
| | | | | | 25% Fiber Glass | |
| 02/26/02 | 05986 | LF-Bldg 6 Sifting # 7 | Soil | 0.81% Chrysotile | 40 % Cellulose | 39.19% Other |
| | | | | | 20% Fiber Glass | |
| 02/26/02 | 05987 | B-14 | Soil | 0.27 % Chrysotile | 45% Cellulose | 34.73% Other |
| | | | | | 20% Fiber Glass | |
| 02/26/02 | 05988 | B-14 | Soil | 0.26% Chrysotile | 40% Cellulose | 34.74% Other |
| | | | | | 25% Fiber Glass | |
| 02/26/02 | 05989 | B-13 | Soil | None | 40% Cellulose | 35 % Other |
| | | | | | 25% Fiber Glass | |
| 02/26/02 | 05990 | LF-Area D - Sifting # 3 | Soil | None | 40% Cellulose | 35% Other |
| | | | | | 25% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 12, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0650 | 0653 | 0636 |
| Stop Time | 1455 | 1458 | 1442 |
| Run Time (minutes) | 485 | 485 | 486 |
| Maximum Concentration ($ug/m^3$) | 204.62 | 69.81 | 63.49 |
| Average Concentration ($ug/m^3$) | 53.13 | 42.17 | 40.70 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/12/02**

| File Name | NYC1266 | NYC1268 | NYC1267 | NYC1269 | NYC1271 | NYC1270 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07586 | A07587 | A07588 | A07589 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, March 14, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:30 p.m. on March 14**

**Air: Fixed Monitors in New York:**

**Asbestos** - EPA analyzed 70 samples taken in and around ground zero from March 7 through March 10. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

One sample, taken on March 9 at Location "W" (Wash Tent Common Area) showed 144 structures per square millimeter. This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 6,868, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

This number of exceedances is lower than reported on prior daily summaries. Earlier sampling results included an additional, unnecessary adjustment for the volume of air sampled. Using a more appropriate method, those results have been recalculated and the true levels of asbestos measured are generally lower. Consequently, the standard was actually exceeded less often than previously stated.

**Staten Island Landfill:**

**Air (Asbestos)** - A total of 77 air samples collected on February 27, and March 3, 4 and 6, were analyzed for asbestos. All samples were below the school re-entry standard.

**Ambient Air Samples:**

**Dioxin** - A total of 20 samples were collected on February 21 and February 26 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Metals** - Ten samples were collected on January 25 at various locations in Lower Manhattan.

All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**PCBs** - A total of 20 samples were collected on February 26 and February 28 at various locations in Lower Manhattan. PCBs were not detected.

**PAHs** - A total of 19 samples were collected on February 19 and February 28 at various locations in Lower Manhattan. PAHs were not detected.

**VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 13 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 13 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, March 14, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 6 PM)

Results pending.

NYC / ER (Mar 7 AM)

Results pending.

NYC / ER (Mar 7, 1200 - 2400 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations C and F-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Mar 8, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 8 PM)

Results pending.

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 9, 1200 - 2400 hrs)

1 of 18 samples analyzed was above the TEM AHERA standard.
Exceedance of the TEM AHERA standard occurred at Location W (144 S/mm$^2$).

NYC / ER (Mar 10, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18)

Results pending.

Fresh Kills (Feb 19)

Results pending.

Fresh Kills (Feb 25)

Results pending.

Fresh Kills (Feb 27, 0745 - 2145 hrs)

All 20 samples analyzed were below the TEM AHERA standard.
Note: Low sample volumes recorded.

Fresh Kills (Mar 3, 0713 - 2041 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 4, 0659 - 2053 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 5)

Results pending.

Fresh Kills (Mar 6, 0647 - 2157 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 13) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Feb 21) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 26) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 25) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Note: Elevated levels of lead identified in the quality control (QC) samples (blanks) indicate that lead is not present in the sample collected at Location S at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Feb 19) - PAHs

All 9 samples analyzed did not detect any PAHs.
1 sample (Location S) was not collected due to an equipment malfunction.

NYC / ER (Feb 28) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Feb 26) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Feb 28) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 13) - Particulate Monitoring (Dataram)

Particulate levels were not measured at Locations L, N, and R due to weather conditions.

NYC / ER (Mar 13) - Volatile Organics (Mobile Laboratory)

Several volatile organic compounds were detected above the detection limit (20 ppbv) in two plume samples taken at the ground surface at the South Tower location.
Aside from one volatile organic compound detected at the Washing Tent above the detection limit (20 ppbv), no other compounds were detected at the other locations that were sampled.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/7/02 1200 to 2400

**Data Validation Date: 03/9/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/07/02 | TTW-01249 | E | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01250 | S | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01251 | U | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/07/02 | TTW-01252 | V | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/07/02 | TTW-01253 | K | 1260 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/07/02 | TTW-01254 | D | 1296 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/07/02 | TTW-01255 | C-Dup | 1332 | Air | 8.92 | 0.003 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01256 | B | 1332 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01257 | Q | 1404 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 03/07/02 | TTW-01258 | F | 1332 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01259 | J | 1175.4 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 03/07/02 | TTW-01260 | N | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/07/02 | TTW-01261 | M1 | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/07/02 | TTW-01262 | L | 1254.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/07/02 | TTW-01264 | A | 1332 | Air | 16.56 | 0.005 | 0 | 0 | <16.00 | <0.0046 |
| 03/07/02 | TTW-01263 | W | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

*No samples collected at locations C and F-Dup, due to pump Fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
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H: South side of Chase Manhattan Plaza at Pine St.
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
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P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/10/2002**
**Sampling Date and Time:** **3/8/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/08/02 | FB030802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/08/02 | TB030802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/08/02 | TTW-01265 | E | 1103.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/08/02 | TTW-01266 | S | 1080 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/08/02 | TTW-01267 | U | 1216.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/08/02 | TTW-01268 | V | 1172.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/08/02 | TTW-01269 | K | 1092.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/08/02 | TTW-01270 | D | 1186.2 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/08/02 | TTW-01271 | C | 1072.8 | Air | 8.92 | 0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/08/02 | TTW-01272 | B | 1186.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/08/02 | TTW-01273 | A | 1207.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/08/02 | TTW-01274 | A-Dup | 1135.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/08/02 | TTW-01275 | F | 1217.3 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/08/02 | TTW-01276 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/08/02 | TTW-01277 | Q-Dup | 1186.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/08/02 | TTW-01278 | J | 1076.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/08/02 | TTW-01279 | N | 1164.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/08/02 | TTW-01280 | M1 | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/08/02 | TTW-01281 | L | 943.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 03/08/02 | TTW-01282 | W | 1080.4 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0048 |

**Sampling Locations:**
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F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/12/2002**
**Sampling Date and Time:** **3/10/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 03/10/02 | FB031002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/10/02 | TB031002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/10/02 | TTW-01334 | E | 977.4 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0045 |
| 03/10/02 | TTW-01335 | S | 1146.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/10/02 | TTW-01336 | S-Dup | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 03/10/02 | TTW-01337 | U | 1205.23 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/10/02 | TTW-01338 | V | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/10/02 | TTW-01339 | K | 1093.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/10/02 | TTW-01340 | D | 1219.75 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0042 |
| 03/10/02 | TTW-01341 | C | 1045.8 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/10/02 | TTW-01342 | B | 1179.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/10/02 | TTW-01343 | A | 1171.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/10/02 | TTW-01344 | F | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/10/02 | TTW-01345 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/10/02 | TTW-01346 | J | 1172.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/10/02 | TTW-01347 | N | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/10/02 | TTW-01348 | M1 | 1050.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/10/02 | TTW-01349 | M1-Dup | 1174.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/10/02 | TTW-01350 | L | 1130.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/10/02 | TTW-01351 | W | 1130.4 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0045 |

**Sampling Locations:**
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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/12/02**
**Sampling Date and Time:** 3/9/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/09/02 | TTW-01316 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01317 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01318 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01319 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01320 | K | 1404 | Air | <7.0 | <0.002 | 0 | ***1 | 16 | 0.0044 |
| 03/09/02 | TTW-01321 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01322 | C | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/09/02 | TTW-01323 | B | 1404 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 03/09/02 | TTW-01324 | A | 1404 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0044 |
| 03/09/02 | TTW-01325 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01326 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/09/02 | TTW-01327 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01328 | J-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01329 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01330 | N-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | TTW-01331 | M1 | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/09/02 | TTW-01332 | L | 1105.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/09/02 | TTW-01333 | W | 1440 | Air | 12.74 | 0.003 | ***9 | 0 | 144 | 0.0385 |

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**Key:**
* Some Sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
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**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 2/27/02 0745 to 2145

**Data Validation Date: 03/6/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/27/02 | LF03110 | P-1 | 1149.20 | Air | <7.0 | <0.002 | 0 | ***2 | 26.25 | 0.0088 |
| 02/27/02 | LF03111 | P-2 | 204.00 | Air | <7.0 | <0.013 | 0 | 0 | <2.62 | <0.0050 |
| 02/27/02 | LF03112 | P-3 | 1115.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/27/02 | LF03113 | P-4 | 1126.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/27/02 | LF03114 | P-5 | 1077.45 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/27/02 | LF03115 | P-6 | 1149.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/27/02 | LF03116 | P-7 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/27/02 | LF03117 | P-8 | 1107.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 02/27/02 | LF03118 | W-11 | 1145.80 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0044 |
| 02/27/02 | LF03119 | W-12A | 1260.00 | Air | 8.92 | 0.003 | ***2 | 0 | 31.50 | 0.0096 |
| 02/27/02 | LF03120 | W-12B | 1174.25 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0043 |
| 02/27/02 | LF03121 | B-13 | 1164.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 02/27/02 | LF03122 | B-14 | 1213.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 02/27/02 | LF03123 | T-15 | 1080.00 | Air | <7.0 | <0.003 | 0 | ***† | 13.12 | 0.0047 |
| 02/27/02 | LF03124 | T-16 | 1080.00 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0047 |
| 02/27/02 | LF03125 | O-17 | 930.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0047 |
| 02/27/02 | LF03126 | O-18 | 1118.40 | Air | 16.56 | 0.006 | 0 | 0 | <13.12 | <0.0045 |
| 02/27/02 | LF03127 | O-19 | 1001.30 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 02/27/02 | LF03128 | MPHS-20 | 1096.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/27/02 | LF03129 | P-6 Dup | 154.70 | Air | <7.0 | <0.017 | 0 | 0 | <7.87 | <0.0196 |
| 02/27/02 | LF03130 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 02/27/02 | LF03131 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

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** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-2-27-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/3/02 0713 to 2041**

**Data Validation Date: 03/5/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/03/02 | LF03196 | P-1 | 1213.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/03/02 | LF03197 | P-2 | 1139.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/23/02 | LF03198 | P-3 | 957.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/03/02 | LF03199 | P-4 | 862.60 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0044 |
| 03/03/02 | LF03200 | P-5 | 1214.10 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/03/02 | LF03201 | P-6 | 1312.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0038 |
| 03/03/02 | LF03202 | P-7 | 1085.95 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/03/02 | LF03203 | P-8 | 1125.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/03/02 | LF03204 | W-12A | 1106.30 | Air | <7.0 | <0.002 | ***1 | ***1 | 26.25 | 0.0091 |
| 03/03/02 | LF03205 | W-12B | 1282.05 | Air | 30.57 | 0.009 | 0 | 0 | <15.75 | <0.0047 |
| 03/03/02 | LF03206 | B-13 | 1171.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/03/02 | LF03207 | B-14 | 1258.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | LF03208 | T-15 | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/03/02 | LF03209 | T-16 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/03/02 | LF03210 | O-17 | 1045.80 | Air | 15.29 | 0.006 | 0 | 0 | <13.12 | <0.0048 |
| 03/03/02 | LF03211 | O-18 | 1250.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/03/02 | LF03212 | O-19 | 1240.70 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/03/02 | LF03213 | MPHS-20 | 1018.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/03/02 | LF03214 | P-7Dup | 1130.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/03/02 | LF03215 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/03/02 | LF03216 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-03-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/4/02 0659 to 2053

**Data Validation Date: 03/6/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/04/02 | LF03217 | P-1 | 652.80 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0046 |
| 03/04/02 | LF03218 | P-2 | 1116.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/04/02 | LF03219 | P-3 | 1185.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | LF03220 | P-4 | 1008.10 | Air | <7.0 | <0.003 | 0 | 0 | <19.69 | <0.0075 |
| 03/04/02 | LF03221 | P-5 | 1152.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | LF03222 | P-6 | 1067.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/04/02 | LF03223 | P-7 | 965.65 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/04/02 | LF03224 | P-8 | 1032.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/04/02 | LF03225 | W-12A | 1116.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 03/04/02 | LF03226 | W-12B | 1011.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/04/02 | LF03227 | B-13 | 1159.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | LF03228 | B-14 | 1211.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/04/02 | LF03229 | T-15 | 1188.00 | Air | 11.46 | 0.004 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | LF03230 | T-16 | 1188.00 | Air | 11.46 | 0.004 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | LF03231 | O-17 | 1104.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/04/02 | LF03232 | O-18 | 1156.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/04/02 | LF03233 | O-19 | 1018.30 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/04/02 | LF03234 | MPHS-20 | 1186.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/04/02 | LF03235 | P-8 Dup | 1011.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/04/02 | LF03236 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/04/02 | LF03237 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite

NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-3-4-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/6/02 0647 to 2157**

**Data Validation Date: 03/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/06/02 | LF03259 | P-1 | 1056.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/06/02 | LF03260 | P-2 | 1123.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/06/02 | LF03261 | P-3 | 1256.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/06/02 | LF03262 | P-4 | 965.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/06/02 | LF03263 | P-5 | 1130.35 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/06/02 | LF03264 | P-6 | 1177.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/06/02 | LF03265 | P-7 | 1233.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/06/02 | LF03266 | P-8 | 1245.05 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/06/02 | LF03267 | W-12A | 1240.75 | Air | 30.57 | 0.009 | ***1 | ***1 | 31.5 | 0.0098 |
| 03/06/02 | LF03268 | W-12B | 1147.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/06/02 | LF03269 | B-13 | 1032.90 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/06/02 | LF03270 | B-14 | 1213.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/06/02 | LF03271 | T-15 | 1332.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/06/02 | LF03272 | T-16 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/06/02 | LF03273 | O-17 | 1200.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/06/02 | LF03274 | O-18 | 1167.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/06/02 | LF03275 | O-19 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/06/02 | LF03276 | MPHS-20 | 1154.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/06/02 | LF03277 | B-14 Dup | 1178.45 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/06/02 | LF03278 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/06/02 | LF03279 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-06-02 rev1.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/19/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06551 | | 06552 | | 06553 | | 06555 | | 06556 | |
| Sampling Location | Location R | | Location E | | Location P | | Location D | | Location C | |
| Volume (L) | 936 | | 948 | | 906.53 | | 936 | | 865.8 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.5 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 0.97 | U | 0.96 | U | 1.0 | U | 0.97 | U | 1.0 |
| Pyrene | U | 0.97 | U | 0.96 | U | 1.0 | U | 0.97 | U | 1.0 |
| Benzo[a]anthracene | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.86 | U | 0.93 |
| Chrysene | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.86 | U | 0.93 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.78 | U | 0.84 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.78 | U | 0.84 |
| Benzo[e]pyrene | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.78 | U | 0.84 |
| Benzo[a]pyrene | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.78 | U | 0.84 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.71 | U | 0.77 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.70 | U | 0.73 | U | 0.70 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.71 | U | 0.77 |

COC: 02/19/02-PAHs ERT: 3/7/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-19-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/19/02 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sample No. | 06557 | | 06558 | | 06559 | | 06560 | |
| Sampling Location | Location B | | Location B | | Location 3A | | Location A | |
| | 800 | | 936 | | 912 | | 948 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.5 | U | 1.6 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.2 |
| Acenaphthylene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.3 | U | 1.1 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.3 | U | 1.1 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.1 | U | 0.97 | U | 1.0 | U | 0.96 |
| Pyrene | U | 1.1 | U | 0.97 | U | 1.0 | U | 0.96 |
| Benzo[a]anthracene | U | 1.0 | U | 0.86 | U | 0.88 | U | 0.85 |
| Chrysene | U | 1.0 | U | 0.86 | U | 0.88 | U | 0.85 |
| Benzo[b]fluoranthene | U | 0.91 | U | 0.78 | U | 0.80 | U | 0.77 |
| Benzo[k]fluoranthene | U | 0.91 | U | 0.78 | U | 0.80 | U | 0.77 |
| Benzo[e]pyrene | U | 0.91 | U | 0.78 | U | 0.80 | U | 0.77 |
| Benzo[a]pyrene | U | 0.91 | U | 0.78 | U | 0.80 | U | 0.77 |
| Indeno(1,2,3-c,d)pyrene | U | 0.83 | U | 0.71 | U | 0.73 | U | 0.70 |
| Dibenzo[a,h]anthracene | U | 0.82 | U | 0.70 | U | 0.72 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.83 | U | 0.71 | U | 0.73 | U | 0.70 |

COC: 02/19/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-19-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: NYC ER Site

| Date Sampled 02/19/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06561 | | 06562 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/19/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-19-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 02/28/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06587 | | 06588 | | 06589 | | 06590 | | 06591 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 960 | | 900 | | 904 | | 863.08 | | 936 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.6 | U | 1.6 | U | 1.7 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 |
| Biphenyl | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Acenaphthene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Dibenzofuran | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 |
| Carbazole | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluoranthene | U | 0.95 | U | 1.0 | U | 1.0 | U | 1.1 | U | 0.97 |
| Pyrene | U | 0.95 | U | 1.0 | U | 1.0 | U | 1.1 | U | 0.97 |
| Benzo[a]anthracene | U | 0.84 | U | 0.89 | U | 0.89 | U | 0.93 | U | 0.86 |
| Chrysene | U | 0.84 | U | 0.89 | U | 0.89 | U | 0.93 | U | 0.86 |
| Benzo[b]fluoranthene | U | 0.76 | U | 0.81 | U | 0.81 | U | 0.84 | U | 0.78 |
| Benzo[k]fluoranthene | U | 0.76 | U | 0.81 | U | 0.81 | U | 0.84 | U | 0.78 |
| Benzo[e]pyrene | U | 0.76 | U | 0.81 | U | 0.81 | U | 0.84 | U | 0.78 |
| Benzo[a]pyrene | U | 0.76 | U | 0.81 | U | 0.81 | U | 0.84 | U | 0.78 |
| Indeno(1,2,3-c,d)pyrene | U | 0.69 | U | 0.74 | U | 0.74 | U | 0.77 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.69 | U | 0.73 | U | 0.73 | U | 0.76 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.69 | U | 0.74 | U | 0.74 | U | 0.77 | U | 0.71 |

COC: 02/28/02-PAHs ERT: 3/8/02
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-28-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 02/28/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06592 | | 06593 | | 06594 | | 06595 | | 06596 | |
| Sampling Location | Location C | | Location B | | Location 3A | | Location A | | Location A | |
| | 995.4 | | 861.1 | | 878.88 | | 948 | | 936 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.4 | U | 1.7 | U | 1.6 | U | 1.5 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.3 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.3 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.2 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.2 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.3 |
| Acenaphthylene | U | 1.2 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.2 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.1 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.1 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.0 | U | 1.2 | U | 1.2 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.0 | U | 1.2 | U | 1.2 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.1 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 0.91 | U | 1.1 | U | 1.0 | U | 0.96 | U | 0.97 |
| Pyrene | U | 0.91 | U | 1.1 | U | 1.0 | U | 0.96 | U | 0.97 |
| Benzo[a]anthracene | U | 0.81 | U | 0.93 | U | 0.92 | U | 0.85 | U | 0.86 |
| Chrysene | U | 0.81 | U | 0.93 | U | 0.92 | U | 0.85 | U | 0.86 |
| Benzo[b]fluoranthene | U | 0.73 | U | 0.85 | U | 0.83 | U | 0.77 | U | 0.78 |
| Benzo[k]fluoranthene | U | 0.73 | U | 0.85 | U | 0.83 | U | 0.77 | U | 0.78 |
| Benzo[e]pyrene | U | 0.73 | U | 0.85 | U | 0.83 | U | 0.77 | U | 0.78 |
| Benzo[a]pyrene | U | 0.73 | U | 0.85 | U | 0.83 | U | 0.77 | U | 0.78 |
| Indeno(1,2,3-c,d)pyrene | U | 0.67 | U | 0.77 | U | 0.76 | U | 0.70 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.66 | U | 0.77 | U | 0.75 | U | 0.70 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.67 | U | 0.77 | U | 0.76 | U | 0.70 | U | 0.71 |

COC: 02/28/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-28-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 02/28/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06597 | | 06598 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 02/28/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is extimated

02-28-02PAH.xls

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 2/21/02

| Sample No. | WG7120-1 | | | 06470 | | | 06469 | | | 06468 | | | 06467 | | | 06466 | | | 06465 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 7316 | | | 7410 | | | 7350 | | | 7305 | | | 7005 | | | 7198 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0029 | U | | 0.0028 |
| 12378-PeCDD | U | 0.0023 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123789-HxCDD | U | 0.0049 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDD | 0.0065 J | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0007 | 0.014 | U | 0.0007 | 0.014 | U | | 0.014 |
| OCDD | U | 0.0182 | 0.20 | U | 0.0022 | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.029 | U | | 0.028 |
| 2378-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0029 | U | | 0.0028 |
| 12378-PeCDF | 0.0026 J | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 23478-PeCDF | U | 0.0022 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDF | 0.0022 J | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDF | 0.0023 J | | 0.10 | U | | 0.014 | 0.0002 J | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 234678-HxCDF | U | 0.0017 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123789-HxCDF | U | 0.0025 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDF | 0.0030 J | | 0.10 | 0.0002 J | | 0.014 | 0.0004 J | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | 0.0003 J | | 0.014 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| OCDF | 0.0070 J | | 0.20 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.029 | U | | 0.028 |
| Total TCDDs | U | | | 0.0010 | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0065 | | | 0.0003 | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0026 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0046 | | | U | | | 0.0002 | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0030 | | | 0.0002 | | | 0.0004 | | | U | | | U | | | 0.0003 | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0007 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0354 | | | 0.0003 | | | 0.0004 | | | 0.0004 | | | 0.0004 | | | 0.0005 | | | 0.0006 | | |

COC# 02/21/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/08/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-21-02dioxir.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/21/02**

| Sample No. | 06464 | | | 06463 | | | 06462 | | | 06461 | | | 06471 | | | 06472 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7305 | | | 7632.5 | | | 7018 | | | 7305 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0028 | U | | 0.0029 | U | | 0.0027 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0004 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | 0.0006 | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0007 | 0.014 | U | 0.0040 | 0.10 | 0.0044 J | | 0.10 |
| OCDD | U | | 0.027 | U | 0.0025 | 0.028 | U | 0.0023 | 0.029 | U | | 0.027 | U | 0.0151 | 0.20 | 0.0123 | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0028 | U | | 0.0029 | U | | 0.0027 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | 0.0002 | 0.014 | U | | 0.014 | 0.0002 J | | 0.014 | 0.0003 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | 0.0003 | 0.014 | U | 0.0002 | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0001 | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | 0.0003 | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.028 | U | | 0.029 | U | | 0.027 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | 0.0004 | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | 0.0044 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | 0.0002 | | | 0.0003 | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0005 | | | 0.0491 | | | 0.0399 | | |

COC# 02/21/02 dioxin

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/26/02**

| Sample No. | WG7130-1 | | | 06482 | | | 06481 | | | 06480 | | | 06479 | | | 06478 | | | 06477 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 7006 | | | 7320 | | | 7320 | | | 7290 | | | 7350 | | | 7350 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDD | 0.0099 J | | 0.10 | U | 0.0009 | 0.014 | U | 0.0019 | 0.014 | 0.0015 J | | 0.014 | U | 0.0011 | 0.014 | U | | 0.014 | U | | 0.014 |
| OCDD | U | 0.0434 | 0.20 | U | | 0.028 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 | U | | 0.0027 |
| 12378-PeCDF | U | .0029 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123678-HxCDF | U | 0.0034 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 234678-HxCDF | U | 0.0021 | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 123789-HxCDF | 0.0026 J | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | 0.0008 J | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.014 |
| OCDF | U | | 0.20 | U | | 0.028 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 | U | | 0.027 |
| Total TCDDs | U | | | U | | | 0.0033 | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | 0.0012 | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0183 | | | U | | | 0.0019 | | | 0.0025 | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0026 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0008 | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0004 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0400 | | | 0.0008 | | | 0.0008 | | | 0.0011 | | | 0.0009 | | | 0.0010 | | | 0.0008 | | |

COC# 022502 dioxin

B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/11/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-26-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/26/02**

| Sample No. | 06476 | | | 06475 | | | 06474 | | | 06473 | | | 06483 | | | 06484 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location B | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7595 | | | 7260 | | | 7230 | | | 7200 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0026 | U | | 0.0028 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | 0.0008 | 0.013 | U | 0.0012 | 0.014 | U | 0.0011 | 0.014 | 0.0013 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.026 | U | | 0.028 | U | | 0.028 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| 2378-TCDF | U | | 0.0026 | U | | 0.0028 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | 0.0001 J | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0022 | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0022 J | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.026 | U | | 0.028 | U | | 0.028 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | 0.0009 | | | 0.0020 | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0001 | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | 0.0002 | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0002 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0006 | | | 0.0006 | | | 0.0010 | | | 0.0010 | | | 0.0401 | | | 0.0401 | | |

COC# 02/26/02 dioxin

2-26-02dioair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/28/02**

| Sample No. | WG-7134-1P | | 06485 | | 06486 | | 06487 | | 06488 | | 06489 | | 06490 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 6579.38 | | 6840 | | 6000 | | 6356 | | 7545 | | 7575 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of MoCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of DiCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of TrCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of TeCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of PeCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of HxCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of HpCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of OcCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Sum of NoCBs | U | 10.0 | U | 1.52 | U | 1.46 | U | 1.67 | U | 1.57 | U | 1.33 | U | 1.32 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/28/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/11/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/28/02**

| Sample No. | 06491 | | 06492 | | 06493 | | 06494 | | 06495 | | 06496 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | 3A | | A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7522.5 | | 7695 | | 6570 | | 7021.5 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.33 | U | 1.30 | U | 1.52 | U | 1.42 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/28/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/26/02**

| Sample No. | WG-7130-1P | | 06473 | | 06474 | | 06475 | | 06476 | | 06477 | | 06478 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 7200 | | 7230 | | 7260 | | 7595 | | 7350 | | 7350 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of MoCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of DiCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of TrCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of TeCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of PeCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of HxCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of HpCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of OcCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Sum of NoCBs | U | 10.0 | U | 1.39 | U | 1.38 | U | 1.38 | U | 1.32 | U | 1.36 | U | 1.36 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/26/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/11/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 02/26/02**

| Sample No. | 06479 | | 06480 | | 06481 | | 06482 | | 06483 | | 06484 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | 3A | | A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7290 | | 7320 | | 7320 | | 7006 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.37 | U | 1.37 | U | 1.43 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 02/26/02-Dioxin

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06324 | | 06324 | | 06324 | | 06323 | | 06313 | | 06314 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 4200 | | 4150 | |
| Date Collected | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.60 | U | 0.60 | 0 | 0.60 | U | 0.60 | U | 0.14 | 1.0 J | 0.14 |
| Antimony | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.018 | U | 0.018 |
| Arsenic | AA-Fur | U | 0.125 | U | 0.125 | U | 0.125 | U | 0.125 | U | 0.03 | U | 0.03 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.075 | U | 0.076 |
| Beryllium | ICAP | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.012 | U | 0.012 |
| Cadmium | ICAP | U | 0.016 | U | 0.016 | U | 0.016 | U J | 0.016 | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | 3.1 J | 0.83 | 9.1 J | 0.84 |
| Chromium | ICAP | 0.85 | 0.042 | 0.51 | 0.042 | 0.83 | 0.042 | 0.48 J | 0.042 | U | 0.009 | U | 0.009 |
| Cobalt | ICAP | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.034 | 0.008 | 0.007 | U | 0.008 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.11 | U | 0.11 |
| Iron | ICAP | U | 0.90 | 2.1 | 0.90 | U | 0.90 | U | 0.90 | 0.91 J | 0.21 | 2.8 J | 0.21 |
| Lead | AA-Fur | U | 0.010 | 0.021 | 0.010 | 0.019 | 0.010 | U | 0.010 | 0.020 | 0.002 | 0.060 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U | 0.79 | 1.8 | 0.79 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | 0.041 | 0.019 | 0.06 | 0.019 |
| Nickel | ICAP | U | 0.058 | U | 0.058 | U | 0.058 | 0.062 J | 0.058 | U | 0.014 | 0.023 J | 0.014 |
| Potassium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 0.87 | U | 0.89 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.018 | U | 0.018 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.006 | U | 0.006 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 0.88 | U | 0.89 |
| Thallium | AA-Fur | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.008 | U | 0.008 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.009 | U | 0.009 |
| Zinc | ICAP | U | 0.079 | 0.11 | 0.079 | U | 0.079 | U | 0.079 | U | 0.019 | 0.26 J | 0.019 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06315 | | 06316 | | 06317 | | 06318 | | 06319 | | 06320 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | A-BARCLAY ST. & WEST BROADWAY | | LOC B CHURCH & DEY ST | | C-LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | | P-ALBANY ST. & SOUTH END AVE | |
| Air Volume (L) | | 5116.5 | | 3750 | | 4690 | | 4868.75 | | 4660 | | 4336.5 | |
| Date Collected | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.43 J | 0.12 | 1.4 J | 0.16 | 0.38 J | 0.13 | 0.38 J | 0.12 | 0.42 J | 0.13 | 0.85 J | 0.14 |
| Antimony | AA-Fur | U | 0.015 | 0.026 | 0.020 | U | 0.016 | U | 0.015 | U | 0.016 | U | 0.017 |
| Arsenic | AA-Fur | U | 0.024 | U | 0.033 | U | 0.027 | U | 0.026 | U | 0.027 | U | 0.029 |
| Barium | ICAP | U | 0.062 | U | 0.084 | U | 0.067 | U | 0.065 | U | 0.068 | U | 0.073 |
| Beryllium | ICAP | U | 0.010 | U | 0.013 | U | 0.011 | U | 0.010 | U | 0.011 | U | 0.012 |
| Cadmium | ICAP | U J | 0.003 | U J | 0.004 | U J | 0.003 | U J | 0.003 | U J | 0.003 | U J | 0.004 |
| Calcium | ICAP | 5.1 J | 0.68 | 16 J | 0.93 | 4.0 J | 0.74 | 3.2 J | 0.72 | 4.5 J | 0.76 | 6.7 J | 0.81 |
| Chromium | ICAP | U | 0.008 | U | 0.010 | U | 0.008 | 0.040 J | 0.008 | U | 0.009 | U | 0.009 |
| Cobalt | ICAP | U | 0.007 | U | 0.009 | U | 0.007 | U | 0.007 | 0.008 | 0.007 | U | 0.008 |
| Copper | ICAP | U | 0.086 | 0.13 | 0.11 | U | 0.094 | U | 0.091 | U | 0.095 | U | 0.10 |
| Iron | ICAP | 1.5 J | 0.17 | 5.0 J | 0.24 | 2.0 J | 0.19 | 2.8 J | 0.18 | 2.3 J | 0.19 | 2.4 J | 0.20 |
| Lead | AA-Fur | 0.046 | 0.002 | 0.15 | 0.003 | 0.040 | 0.002 | 0.021 | 0.002 | 0.021 | 0.002 | 0.040 | 0.002 |
| Magnesium | ICAP | 0.85 | 0.79 | 3.1 | 0.88 | U | 0.71 | U | 0.68 | 0.71 | 0.71 | 2.2 | 0.77 |
| Manganese | ICAP | 0.029 | 0.015 | 0.087 | 0.021 | 0.03 | 0.017 | 0.045 | 0.016 | 0.039 | 0.017 | 0.039 | 0.018 |
| Nickel | ICAP | 0.013 J | 0.011 | 0.027 J | 0.016 | U | 0.012 | 0.018 J | 0.012 | 0.023 J | 0.012 | 0.016 J | 0.013 |
| Potassium | ICAP | U | 0.72 | U | 0.99 | U | 0.78 | U | 0.75 | U | 0.78 | U | 0.85 |
| Selenium | AA-Fur | U | 0.015 | U | 0.02 | U | 0.016 | U | 0.015 | U | 0.016 | U | 0.017 |
| Silver | ICAP | U | 0.005 | U | 0.007 | U | 0.005 | U | 0.005 | U | 0.005 | U | 0.006 |
| Sodium | ICAP | U | 0.72 | 1.8 | 0.98 | U | 0.78 | 0.81 | 0.75 | 1.0 | 0.79 | 2.7 | 0.85 |
| Thallium | AA-Fur | U | 0.007 | U | 0.009 | U | 0.007 | U | 0.007 | U | 0.008 | U | 0.008 |
| Vanadium | ICAP | U | 0.007 | U | 0.010 | U | 0.008 | U | 0.008 | U | 0.008 | U | 0.008 |
| Zinc | ICAP | 0.23 J | 0.015 | 0.57 J | 0.021 | 0.20 J | 0.017 | 0.18 J | 0.016 | 0.14 J | 0.017 | 0.082 J | 0.018 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1 x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06321 | | 06322 | |
|---|---|---|---|---|---|
| Location | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 3645.5 | | 3890.5 | |
| Date Collected | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.17 | 0.20 J | 0.15 |
| Antimony | AA-Fur | U | 0.021 | U | 0.019 |
| Arsenic | AA-Fur | U | 0.034 | U | 0.032 |
| Barium | ICAP | U | 0.086 | U | 0.081 |
| Beryllium | ICAP | U | 0.014 | U | 0.013 |
| Cadmium | ICAP | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | 1.5 J | 0.97 | 2.8 J | 0.89 |
| Chromium | ICAP | U | 0.011 | U | 0.010 |
| Cobalt | ICAP | U | 0.009 | 0.009 | 0.008 |
| Copper | ICAP | U | 0.12 | U | 0.11 |
| Iron | ICAP | 0.99 J | 0.25 | U | 0.23 |
| Lead | AA-Fur | 0.004 | 0.003 | 0.085 | 0.003 |
| Magnesium | ICAP | U | 0.91 | U | 0.85 |
| Manganese | ICAP | U | 0.021 | U | 0.020 |
| Nickel | ICAP | U | 0.016 | U | 0.015 |
| Potassium | ICAP | U | 1.0 | U | 0.94 |
| Selenium | AA-Fur | U | 0.021 | U | 0.019 |
| Silver | ICAP | U | 0.007 | U | 0.006 |
| Sodium | ICAP | U | 1.0 | 0.99 | 0.94 |
| Thallium | AA-Fur | U | 0.010 | U | 0.009 |
| Vanadium | ICAP | U | 0.010 | U | 0.009 |
| Zinc | ICAP | U | 0.022 | 0.033 J | 0.020 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/13/02**

| File Name | NYC1274 | NYC1275 | NYC1278 | NYC1279 | NYC1277 | NYC1280 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower Plume |
| Sample Number | | | A07590 | A07591 | A07593 | A07592 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | 24 | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | 100 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**U.S. Environmental Protection Agency (EPA)**
**Daily Summary**
**Friday-Tuesday, March 15-19, 2002**

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 12:00 p.m. on March 19**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA sampled for asbestos at two lower Manhattan locations on March 3 and March 4. All four samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 6,872, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Dust Sampling for Asbestos** - A total of 10 samples were collected from various locations at ground zero on March 7. Asbestos in all samples was either not detected, or was less than 1%.

**Air Sampling for Particulates** - EPA used portable monitors to collect samples on March 14 through March 16 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School), and on March 17 at Location "N" and Location "R". All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Dioxin** - Ten samples were collected on February 28 at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Air Sampling for PCBs** - A total of 20 samples were collected on March 5 and March 7 at various locations in Lower Manhattan. PCBs were not detected.

**Air Sampling for PAHs** - A total of 20 samples were collected on March 5 and March 7 at various locations in Lower Manhattan. PAHs were not detected.

**Air Sampling for VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from March 14 through March 18 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes "grab" samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

A sample taken from a smoke plume at the South Tower excavation area on March 17 exceeded the OSHA PEL for benzene.

All other samples taken from March 14 through March 18 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 17 air samples collected on March 5 were analyzed for asbestos. All samples were below the school re-entry standard.

**Air Sampling for Metals** - Five air samples were collected on March 1 and analyzed for metals. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Dust Sampling for Asbestos** - A total of 8 samples were collected from the landfill sift and barge unloading areas at the Staten Island Landfill on March 5 and March 8. Asbestos in all samples was either not detected, or was less than 1%.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on March 3 and March 4 at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, March 19, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 6 PM)

Results pending.

NYC / ER (Mar 7 AM)

Results pending.

NYC / ER (Mar 8 PM)

Results pending.

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Feb 18) - Asbestos

Results pending.

Fresh Kills (Feb 19) - Asbestos

Results pending.

Fresh Kills (Feb 25) - Asbestos

Results pending.

Fresh Kills (Mar 5, 0732 - 2040 hrs) - Asbestos

All 17 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-7 and MPHS-20) were not collected due to equipment

malfunctions.

Fresh Kills (Mar 7) - Asbestos

Results pending.

Fresh Kills (Mar 8) - Asbestos

Results pending.

Fresh Kills (Mar 9) - Asbestos

Results pending.

Fresh Kills (Mar 1) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Fresh Kills (Mar 14 - 18) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to equipment malfunctions.

Ambient Air Sampling Locations

NYC / ER (Feb 28) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Mar 5) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 7) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 5) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 7) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 3 - 4) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 14) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours, except for Location N, which operated approximately 5½ hours.
Station L had an average of 57.49 ug/m$^3$ with a maximum reading of 120.63 ug/m$^3$.
Station N had an average of 42.73 ug/m$^3$ with a maximum reading of 92.76 ug/m$^3$.
Station R had an average of 55.57 ug/m$^3$ with a maximum reading of 120.54 ug/m$^3$.

NYC / ER (Mar 15) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 125.99 ug/m$^3$ with a maximum reading of 170.65 ug/m$^3$.
Station N had an average of 121.01 ug/m$^3$ with a maximum reading of 191.41 ug/m$^3$.
Station R had an average of 112.83 ug/m$^3$ with a maximum reading of 410.90 ug/m$^3$.

NYC / ER (Mar 16) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instrument at Location L was weather-proofed and operated approximately 8 hours.
Instruments at Locations N and R operated approximately 1 hour due to weather conditions.
Station L had an average of 79.34 ug/$m^3$ with a maximum reading of 231.92 ug/$m^3$.
Station N had an average of 108.91 ug/$m^3$ with a maximum reading of 152.22 ug/$m^3$.
Station R had an average of 114.74 ug/$m^3$ with a maximum reading of 162.03 ug/$m^3$.

NYC / ER (Mar 17) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations N and R) were below the OSHA TWA.
Particulate measurements were not conducted at Station L due to an equipment malfunction.
Instruments operated approximately 8 hours.
Station N had an average of 16.21 ug/$m^3$ with a maximum reading of 107.86 ug/$m^3$.
Station R had an average of 17.79 ug/$m^3$ with a maximum reading of 107.48 ug/$m^3$.

NYC / ER (Mar 14) - Volatile Organics (Mobile Laboratory)

Several volatile organic compounds were detected above the detection limit (20 ppbv) in a sample taken at the Austin Tobin Plaza location.
Aside from one volatile organic compound detected at the Washing Tent above the detection limit (20 ppbv), no other compounds were detected at the other locations (North and South Towers) that were sampled.
Data is not attached electronically.

NYC / ER (Mar 15) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected above the detection limit (20 ppbv), at the ground surface of both the North and South Tower locations, no other compounds were detected at the other locations (Washing Tent and Austin Tobin Plaza) that were sampled.

NYC / ER (Mar 16) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected above the detection limit (20 ppbv) at the ground surface of the South Tower location, no other compounds

were detected at the other locations (Washing Tent, North Tower, and Austin Tobin Plaza) that were sampled.
Data is not attached electronically.

NYC / ER (Mar 17) - Volatile Organics (Mobile Laboratory)

Numerous volatile organic compounds were detected above the detection limit (20 ppbv) in a ground surface sample taken from a smoke plume on the debris pile at the South Tower location (Tully Ramp pile).
Benzene exceeded OSHA TWA PEL (1 ppm) at the South Tower location in a ground surface sample taken from a smoke plume on the debris pile.
No other volatile organic compounds were detected above the detection limit (20 ppbv) at the other locations (Washing Tent, North Tower, and Austin Tobin Plaza) that were sampled.

NYC / ER (Mar 18) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

NYC (Mar 7) - Asbestos

10 bulk samples collected from the North Tower location from I-beams (4), metal debris (1), dust on top of the soil (1), and dust on the rails in the PATH tunnel (4).
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Mar 5) - Asbestos

5 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

Fresh Kills (Mar 8) - Asbestos

3 bulk samples collected from the landfill sift and barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile in all of the samples.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/5/02 0732 to 2040**

**Data Validation Date: 03/12/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/05/02 | LF03238 | P-1 | 993.30 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0051 |
| 03/05/02 | LF03239 | P-2 | 1032.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/05/02 | LF03240 | P-3 | 1193.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/05/02 | LF03241 | P-4 | 1105.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/05/02 | LF03242 | P-5 | 1071.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/05/02 | LF03243 | P-6 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/05/02 | LF03245 | P-8 | 1116.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/05/02 | LF03246 | W-12A | 1148.85 | Air | 38.22 | 0.013 | 0 | 0 | <13.12 | <0.0044 |
| 03/05/02 | LF03247 | W-12B | 877.20 | Air | 11.46 | 0.005 | 0 | *****1 | 11.25 | 0.0049 |
| 03/05/02 | LF03248 | B-13 | 1169.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/05/02 | LF03249 | B-14 | 1069.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/05/02 | LF03250 | T-15 | 1224.00 | Air | 11.46 | 0.004 | 0 | 0 | <15.75 | <0.0050 |
| 03/05/02 | LF03251 | T-16 | 1224.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/05/02 | LF03252 | O-17 | 1112.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/05/02 | LF03253 | O-18 | 1124.00 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0045 |
| 03/05/02 | LF03254 | O-19 | 1121.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/05/02 | LF03256 | B-13 Dup | 1105.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/05/02 | LF03257 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/05/02 | LF03258 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

*No Sample collected for Location P-7 and MPHS 20 Due to Pump Fault*

**Key:**

* Some Sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 3/3/02 1200 to 2400

**Data Validation Date: 3/6/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 03/03/02 | 7093-18-0157 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/03/02 | 7093-19-0157 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/03/02 | 7093-15-0155 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/03/02 | 7094-09-0145 | P.S. 154 (Bronx) | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/03/02 | 7096-12-0151 | P.S. 199 (Queens) | 1280 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/03/02 | 7095-98-0151 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/03/02 | 7097-18-0148 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 3/4/02 1200 to 2400**

**Data Validation Date: 3/10/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/04/02 | 7093-18-0158 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/04/02 | 7093-19-0158 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/04/02 | 7093-15-0156 | I.S. 143 Manhattan | 1174 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/04/02 | 7094-09-0146 | P.S. 154 (Bronx) | 1214 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/04/02 | 7096-12-0152 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/04/02 | 7095-98-0152 | P.S. 274 (Brooklyn) | 1052 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/04/02 | 7097-18-0149 | P.S. 44 (S I) | 1326 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 3/5/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/05/02 | 05996 | B-14 | Soil | None | 25% Cellulose<br>25% Fiber Glass | 50% Other |
| 03/05/02 | 05997 | B-14 | Soil | None | 25% Cellulose<br>30% Fiber Glass | 45% Other |
| 03/05/02 | 05998 | B-13 | Soil | None | 25% Cellulose<br>25% Fiber Glass | 50% Other |
| 03/05/02 | 05999 | B-13 | Soil | None | 25% Cellulose<br>25% Fiber Glass | 50% Other |
| 03/05/02 | 06000 | LF - Area D - Sifting # 3 | Soil | 0.25% Chrysotile | 20% Cellulose<br>30% Fiber Glass | 49.75% Other |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 3/8/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/08/02 | 06001 | LF Area D - Sifting # 2 | Soil | <1%Chrysotile | 10% Cellulose | 85% Other |
| | | | | | 5% Fiber Glass | |
| 03/08/02 | 06002 | B-14 | Soil | <1%Chrysotile | 12 % Cellulose | 82% Other |
| | | | | | 6% Fiber Glass | |
| 03/08/02 | 06003 | B-14 | Soil | None | 15% Cellulose | 78% Other |
| | | | | | 7% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC NYC**
**Sampling Date :** 3/7/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/07/02 | Bulk-00029 | North Tower | Soil | None | 25.0% Cellulose | 75.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00030 | North Tower | Soil | <1%Chrysotile | 80% Min. Wool<br>5.0 % Cellulose | 15.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00031 | North Tower | Soil | <1%Chrysotile | 80% Min. Wool<br>5.0 % Cellulose | 15.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00032 | North Tower | Soil | <1%Chrysotile | 2.0% Min. Wool<br>3.0 % Cellulose | 95.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00033 | North Tower | Soil | None | 90.0% Min. Wool<br>3.0 % Cellulose | 7.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00034 | North Tower | Soil | <1%Chrysotile | 20.0% Min. Wool<br>1.0 % Cellulose | 79.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00035 | North Tower | Soil | None | 25.0% Min. Wool<br>2.0 % Cellulose | 73.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00036 | North Tower | Soil | None | 3.0 % Cellulose | 97.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00037 | North Tower | Soil | None | 4.0 % Cellulose | 96.00% Other (Non Fibrous) |
| 03/07/02 | Bulk-00038 | North Tower | Soil | None | 25.0% Min. Wool<br>3.0 % Cellulose | 72.00% Other (Non Fibrous) |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

Bulk3-07-02 rev1.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/28/02**

| Sample No. | WG7134-1 | | | 06494 | | | 06493 | | | 06492 | | | 06491 | | | 06490 | | | 06489 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 7022 | | | 6570 | | | 7695 | | | 7523 | | | 7575 | | | 7545 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0028 | U | | 0.0030 | U | | 0.0026 | U | | 0.0027 | U | | 0.0026 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123478-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123678-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123789-HxCDD | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 1234678-HpCDD | 0.0078 J | | 0.10 | U | | 0.014 | U | 0.0007 | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| OCDD | U | 0.0184 | 0.20 | U | | 0.028 | U | 0.0006 | 0.030 | U | | 0.026 | U | | 0.027 | U | | 0.026 | U | | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0028 | U | | 0.0030 | U | | 0.0026 | U | | 0.0027 | U | | 0.0026 | U | | 0.0027 |
| 12378-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 23478-PeCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123478-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 234678-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 123789-HxCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.014 | U | | 0.015 | U | | 0.013 | U | | 0.013 | U | | 0.013 | U | | 0.013 |
| OCDF | U | | 0.20 | U | | 0.028 | U | | 0.030 | U | | 0.026 | U | | 0.027 | U | | 0.026 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0078 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0400 | | | 0.0009 | | | 0.0010 | | | 0.0007 | | | 0.0008 | | | 0.0007 | | | 0.0007 | | |

COC# 02/28/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/14/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

2-28-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 2/28/02**

| Sample No. | 06488 | | | 06487 | | | 06486 | | | 06485 | | | 06495 | | | 06496 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6356 | | | 6000 | | | 6840 | | | 6579 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0031 | U | | 0.0033 | U | | 0.0029 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.016 | U | 0.0010 | 0.017 | U | | 0.015 | U | 0.0006 | 0.015 | U | | 0.10 | U | 0.0048 | 0.10 |
| OCDD | U | | 0.031 | U | | 0.033 | U | | 0.029 | U | 0.0027 | 0.030 | U | 0.0234 | 0.20 | 0.0161 J | | 0.20 |
| 2378-TCDF | U | | 0.0031 | U | | 0.0033 | U | | 0.0029 | U | | 0.0030 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | 0.0022 | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | 0.0021 J | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | 0.0033 | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | 0.0025 | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123479-HpCDF | U | | 0.016 | U | | 0.017 | U | | 0.015 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.031 | U | | 0.033 | U | | 0.029 | U | | 0.030 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | 0.0021 | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0002 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0009 | | | 0.0010 | | | 0.0010 | | | 0.0010 | | | 0.0402 | | | 0.0401 | | |

COC# 02/28/02 dioxin

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/05/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06853 | | 06854 | | 06855 | | 06856 | | 06857 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 916.5 | | 936 | | 861.1 | | 912.6 | | 668.85 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.5 | U | 1.7 | U | 1.6 | U | 2.1 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.9 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.9 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.7 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.7 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.8 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.7 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.6 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.7 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.5 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.5 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.6 |
| Fluoranthene | U | 0.99 | U | 0.97 | U | 1.1 | U | 0.99 | U | 1.3 |
| Pyrene | U | 0.99 | U | 0.97 | U | 1.1 | U | 0.99 | U | 1.3 |
| Benzo[a]anthracene | U | 0.88 | U | 0.86 | U | 0.93 | U | 0.88 | U | 1.2 |
| Chrysene | U | 0.88 | U | 0.86 | U | 0.93 | U | 0.88 | U | 1.2 |
| Benzo[b]fluoranthene | U | 0.79 | U | 0.78 | U | 0.85 | U | 0.80 | U | 1.1 |
| Benzo[k]fluoranthene | U | 0.79 | U | 0.78 | U | 0.85 | U | 0.80 | U | 1.1 |
| Benzo[e]pyrene | U | 0.79 | U | 0.78 | U | 0.85 | U | 0.80 | U | 1.1 |
| Benzo[a]pyrene | U | 0.79 | U | 0.78 | U | 0.85 | U | 0.80 | U | 1.1 |
| Indeno(1,2,3-c,d)pyrene | U | 0.73 | U | 0.71 | U | 0.77 | U | 0.73 | U | 0.96 |
| Dibenzo[a,h]anthracene | U | 0.72 | U | 0.70 | U | 0.77 | U | 0.72 | U | 0.96 |
| Benzo[g,h,i]perylene | U | 0.73 | U | 0.71 | U | 0.77 | U | 0.73 | U | 0.96 |

COC: 03/05/02-PAHs ERT: 3/13/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-05-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/05/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06858 | | 06859 | | 06860 | | 06861 | | 06862 | |
| Sampling Location | Location C 758.1 | | Location B 813.7 | | Location 3A 793.95 | | Location 3A 824.85 | | Location A 803.4 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.9 | U | 1.8 | U | 1.8 | U | 1.7 | U | 1.8 |
| 2-Methylnaphthalene | U | 1.7 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 |
| 1-Methylnaphthalene | U | 1.7 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 |
| Biphenyl | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 |
| 2,6-Dimethylnaphthalene | U | 1.6 | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.5 |
| Acenaphthylene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 |
| Acenaphthene | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.5 |
| Dibenzofuran | U | 1.4 | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.4 |
| Fluorene | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 |
| Phenanthrene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 |
| Anthracene | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 |
| Carbazole | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 |
| Fluoranthene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.10 | U | 1.1 |
| Pyrene | U | 1.2 | U | 1.1 | U | 1.1 | U | 1.10 | U | 1.1 |
| Benzo[a]anthracene | U | 1.1 | U | 0.99 | U | 1.0 | U | 0.98 | U | 1.0 |
| Chrysene | U | 1.1 | U | 0.99 | U | 1.0 | U | 0.98 | U | 1.0 |
| Benzo[b]fluoranthene | U | 0.96 | U | 0.89 | U | 0.92 | U | 0.88 | U | 0.91 |
| Benzo[k]fluoranthene | U | 0.96 | U | 0.89 | U | 0.92 | U | 0.88 | U | 0.91 |
| Benzo[e]pyrene | U | 0.96 | U | 0.89 | U | 0.92 | U | 0.88 | U | 0.91 |
| Benzo[a]pyrene | U | 0.96 | U | 0.89 | U | 0.92 | U | 0.88 | U | 0.91 |
| Indeno(1,2,3-c,d)pyrene | U | 0.88 | U | 0.82 | U | 0.84 | U | 0.81 | U | 0.83 |
| Dibenzo[a,h]anthracene | U | 0.87 | U | 0.81 | U | 0.83 | U | 0.80 | U | 0.82 |
| Benzo[g,h,i]perylene | U | 0.88 | U | 0.82 | U | 0.84 | U | 0.81 | U | 0.83 |

COC: 03/05/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-05-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/05/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06863 | | 06864 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/05/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-05-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/07/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06865 | | 06866 | | 06867 | | 06868 | | 06869 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 930 | | 804 | | 908.7 | | 1028.81 | | 960 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.3 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.3 |
| Biphenyl | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.2 | U | 1.2 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.1 | U | 1.2 |
| Acenaphthylene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.2 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.2 | U | 1.2 |
| Dibenzofuran | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.1 |
| Fluorene | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.0 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.0 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.1 |
| Fluoranthene | U | 0.98 | U | 1.1 | U | 1.0 | U | 0.88 | U | 0.95 |
| Pyrene | U | 0.98 | U | 1.1 | U | 1.0 | U | 0.88 | U | 0.95 |
| Benzo[a]anthracene | U | 0.87 | U | 1.0 | U | 0.89 | U | 0.78 | U | 0.84 |
| Chrysene | U | 0.87 | U | 1.0 | U | 0.89 | U | 0.78 | U | 0.84 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.91 | U | 0.80 | U | 0.71 | U | 0.76 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.91 | U | 0.80 | U | 0.71 | U | 0.76 |
| Benzo[e]pyrene | U | 0.78 | U | 0.91 | U | 0.80 | U | 0.71 | U | 0.76 |
| Benzo[a]pyrene | U | 0.78 | U | 0.91 | U | 0.80 | U | 0.71 | U | 0.76 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.83 | U | 0.73 | U | 0.65 | U | 0.69 |
| Dibenzo[a,h]anthracene | U | 0.71 | U | 0.82 | U | 0.73 | U | 0.64 | U | 0.69 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.83 | U | 0.73 | U | 0.65 | U | 0.69 |

COC: 03/07/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-07-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/07/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06870 | | 06871 | | 06872 | | 06873 | | 06874 | |
| Sampling Location | Location C 806 | | Location B 811.73 | | Location 3A 906.53 | | Location 3A 792.85 | | Location A 872.51 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.8 | U | 1.6 | U | 1.8 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.6 | U | 1.4 | U | 1.6 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.6 | U | 1.4 | U | 1.6 | U | 1.5 |
| Biphenyl | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.5 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 |
| Acenaphthylene | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.5 | U | 1.4 |
| Acenaphthene | U | 1.5 | U | 1.5 | U | 1.3 | U | 1.5 | U | 1.4 |
| Dibenzofuran | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.3 |
| Fluorene | U | 1.4 | U | 1.4 | U | 1.2 | U | 1.4 | U | 1.3 |
| Phenanthrene | U | 1.3 | U | 1.3 | U | 1.1 | U | 1.3 | U | 1.2 |
| Anthracene | U | 1.3 | U | 1.3 | U | 1.1 | U | 1.3 | U | 1.2 |
| Carbazole | U | 1.4 | U | 1.4 | U | 1.2 | U | 1.4 | U | 1.3 |
| Fluoranthene | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.1 | U | 1.0 |
| Pyrene | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.1 | U | 1.0 |
| Benzo[a]anthracene | U | 1.0 | U | 0.99 | U | 0.89 | U | 1.0 | U | 0.92 |
| Chrysene | U | 1.0 | U | 0.99 | U | 0.89 | U | 1.0 | U | 0.92 |
| Benzo[b]fluoranthene | U | 0.90 | U | 0.90 | U | 0.80 | U | 0.92 | U | 0.83 |
| Benzo[k]fluoranthene | U | 0.90 | U | 0.90 | U | 0.80 | U | 0.92 | U | 0.83 |
| Benzo[e]pyrene | U | 0.90 | U | 0.90 | U | 0.80 | U | 0.92 | U | 0.83 |
| Benzo[a]pyrene | U | 0.90 | U | 0.90 | U | 0.80 | U | 0.92 | U | 0.83 |
| Indeno(1,2,3-c,d)pyrene | U | 0.82 | U | 0.82 | U | 0.73 | U | 0.84 | U | 0.76 |
| Dibenzo[a,h]anthracene | U | 0.82 | U | 0.81 | U | 0.73 | U | 0.83 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 0.82 | U | 0.82 | U | 0.73 | U | 0.84 | U | 0.76 |

COC: 03/07/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-07-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-0236: WTC ER Site

| Date Sampled 03/07/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06875 | | 06876 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/07/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-07-02PAH.xls

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0111 | | WTC-0112 | | WTC-0106 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 5990 | |
| Date Collected | | - | | - | | - | | 03/01/02 | | 03/01/02 | | 03/01/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.32 | 0.21 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0083 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0083 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.021 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0083 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.021 |
| Calcium | ICAP | 3.6 | 2.5 | 3.4 | 2.5 | 3.5 | 2.5 | U | 2.5 | U | 2.5 | 1.2 | 0.42 |
| Chromium | ICAP | 0.89 | 0.13 | 0.76 | 0.13 | 0.63 | 0.13 | U | 0.13 | U | 0.13 | 0.023 | 0.021 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.042 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.042 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.53 | 0.1 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.013 | 0.0083 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.1 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.021 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.042 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 8.3 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0083 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.021 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.1 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0083 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.042 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.042 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0107 | | WTC-0108 | | WTC-0109 | | WTC-0110 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 4200 | | 6370 | | 5350 | | 5100 | |
| Date Collected | | 03/01/02 | | 03/01/02 | | 03/01/02 | | 03/01/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.30 | 0.23 | 0.20 | 0.43 | 0.23 | 0.65 | 0.25 |
| Antimony | AA-Fur | U | 0.012 | U | 0.0078 | U | 0.0093 | U | 0.0098 |
| Arsenic | AA-Fur | U | 0.012 | U | 0.0078 | U | 0.0093 | U | 0.0098 |
| Barium | ICAP | U | 0.03 | U | 0.02 | 0.035 | 0.023 | U | 0.025 |
| Beryllium | ICAP | U | 0.012 | U | 0.0078 | U | 0.0093 | U | 0.0098 |
| Cadmium | ICAP | U | 0.03 | U | 0.02 | U | 0.023 | U | 0.025 |
| Calcium | ICAP | 1.4 | 0.60 | 0.87 | 0.39 | 1.6 | 0.47 | 3.5 | 0.49 |
| Chromium | ICAP | 0.044 | 0.03 | U | 0.02 | U | 0.023 | U | 0.025 |
| Cobalt | ICAP | U | 0.06 | U | 0.039 | U | 0.047 | U | 0.049 |
| Copper | ICAP | U | 0.06 | U | 0.039 | U | 0.047 | U | 0.049 |
| Iron | ICAP | 0.65 | 0.15 | 0.54 | 0.098 | 1.0 | 0.12 | 0.90 | 0.12 |
| Lead | AA-Fur | 0.015 | 0.012 | 0.011 | 0.0078 | 0.025 | 0.0093 | 0.022 | 0.0098 |
| Magnesium | ICAP | U | 3.0 | U | 2.0 | U | 2.3 | U | 2.5 |
| Manganese | ICAP | U | 0.03 | U | 0.02 | 0.024 | 0.023 | 0.025 | 0.025 |
| Nickel | ICAP | U | 0.06 | U | 0.039 | U | 0.047 | U | 0.049 |
| Potassium | ICAP | U | 12 | U | 7.8 | U | 9.3 | U | 9.8 |
| Selenium | AA-Fur | U | 0.012 | U | 0.0078 | U | 0.0093 | U | 0.0098 |
| Silver | ICAP | U | 0.03 | U | 0.02 | U | 0.023 | U | 0.025 |
| Sodium | ICAP | U | 3.0 | U | 2.0 | U | 2.3 | U | 2.5 |
| Thallium | AA-Fur | U | 0.012 | U | 0.0078 | U | 0.0093 | U | 0.0098 |
| Vanadium | ICAP | U | 0.06 | U | 0.039 | U | 0.047 | U | 0.049 |
| Zinc | ICAP | U | 0.06 | U | 0.039 | 0.057 | 0.047 | 0.05 | 0.049 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/07/02**

| Sample No. | WG-7146-1P | | 06763 | | 06764 | | 06765 | | 06766 | | 06767 | | 06768 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 6463.5 | | 6989 | | 5895 | | 7517.5 | | 7305 | | 6315 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of MoCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of DiCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of TrCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of TeCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of PeCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of HxCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of HpCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of OcCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Sum of NoCBs | U | 10.0 | U | 1.55 | U | 1.43 | U | 1.70 | U | 1.33 | U | 1.37 | U | 1.58 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/07/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/18/02

3-07-02PCBair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/07/02**

| Sample No. | 06769 | | 06770 | | 06771 | | 06772 | | 06773 | | 06774 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | 3A | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7275 | | 7200 | | 7485 | | 7515 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.37 | U | 1.39 | U | 1.34 | U | 1.33 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/07/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/05/02**

| Sample No. | WG-7142-1P | | 06751 | | 06752 | | 06753 | | 06754 | | 06755 | | 06756 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | C | |
| Sample Volume (L) | 0 | | 7003.5 | | 7125 | | 7170 | | 6690 | | 7096.5 | | 4875 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of MoCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of DiCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of TrCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of TeCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of PeCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of HxCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of HpCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of OcCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Sum of NoCBs | U | 10.0 | U | 1.43 | U | 1.40 | U | 1.39 | U | 1.49 | U | 1.41 | U | 2.05 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/05/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/18/02

3-05-02PCBair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/05/02**

| Sample No. | 06757 | | 06758 | | 06759 | | 06760 | | 06761 | | 06762 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | B | | 3A | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6630 | | 7620 | | 6960 | | 5602.5 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.51 | U | 1.31 | U | 1.44 | U | 1.78 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/05/02-Dioxin

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 17, 2002

| Location | L* | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | - | 1.0 | 1.0 |
| Start Time | - | 0713 | 0655 |
| Stop Time | - | 1535 | 1516 |
| Run Time (minutes) | - | 502 | 501 |
| Maximum Concentration ($ug/m^3$) | - | 107.86 | 107.48 |
| Average Concentration ($ug/m^3$) | - | 16.21 | 17.79 |

* equipment malfunction

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 15, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0634 | 0638 | 0622 |
| Stop Time | 1434 | 1438 | 1422 |
| Run Time (minutes) | 480 | 480 | 480 |
| Maximum Concentration ($ug/m^3$) | 170.65 | 191.41 | 410.90 |
| Average Concentration ($ug/m^3$) | 125.99 | 121.01 | 112.83 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 16, 2002

| Location | L** | N* | R* |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0638 | 0641 | 0625 |
| Stop Time | 1450 | 0748 | 0730 |
| Run Time (minutes) | 492 | 67 | 65 |
| Maximum Concentration ($ug/m^3$) | 231.92 | 152.22 | 162.03 |
| Average Concentration ($ug/m^3$) | 79.34 | 108.91 | 114.74 |

* abbreviated sampling period due to weather conditions
** weather-proofed

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 14, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0646 | 0918 | 0633 |
| Stop Time | 1448 | 1452 | 1433 |
| Run Time (minutes) | 482 | 334 | 480 |
| Maximum Concentration ($ug/m^3$) | 120.63 | 92.76 | 120.54 |
| Average Concentration ($ug/m^3$) | 57.49 | 42.73 | 55.57 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/18/02**

| File Name | NYC1317 | NYC1318 | NYC1319 | NYC1320 | NYC1322 | NYC1321 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07611 | A07612 | A07613 | A07614 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/17/02**

| File Name | NYC1308 | NYC1309 | NYC1310 | NYC1311 | NYC1314 | NYC1312 |
|---|---|---|---|---|---|---|
| Sample Locaton | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | Plume |
| Sample Number | | | A07607 | A07608 | A07609 | A07610 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | **1200** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | **740** |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | **280** |
| Bromomethane | RL | RL | RL | RL | RL | **69** |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | **1100** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | **330** |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | **160** |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | **1300** |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **880** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | **740** |
| m&p-Xylenes | RL | RL | RL | RL | RL | **53** |
| o-Xylene | RL | RL | RL | RL | RL | **25** |
| Styrene | RL | RL | RL | RL | RL | **2200** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/15/02**

| File Name | NYC1292 | NYC1293 | NYC1294 | NYC1295 | NYC1297 | NYC1296 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07599 | A07600 | A07601 | A07602 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | 43 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | 22 | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, March 21, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on March 21**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 68 samples taken in and around ground zero from March 14 through March 16. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,065, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Air Sampling for VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 19 and March 20 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 19 and March 20 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOCs.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 75 samples were collected on March 7, 12, 13 and 14. A sample collected on March 14 at the northern perimeter of the landfill, (Location "P-5"), showed 78.74 structures per square millimeter, which exceeds the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, March 21, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 6 PM)

Results pending.

NYC / ER (Mar 7 AM)

Results pending.

NYC / ER (Mar 8 PM)

Results pending.

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 11 PM)

Results pending.

NYC / ER (Mar 14, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 15, 0001 - 1200 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations F and F-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Mar 15, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location E) was not collected due to an equipment malfunction.

NYC / ER (Mar 16, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location U) was not collected since the pump was stolen from the monitoring location.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 7, 0714 - 2112 hrs) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 8) - Asbestos

Results pending.

Fresh Kills (Mar 9) - Asbestos

Results pending.

Fresh Kills (Mar 12, 0742 - 2038 hrs) - Asbestos

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-7) was not collected due to an equipment malfunction.

Fresh Kills (Mar 13, 0737 - 2131 hrs) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 14, 0717 - 2125 hrs)

1 of 19 samples was above the TEM AHERA standard.
**Exceedance of the TEM AHERA standard occurred at Location P-5 (78.74 S/mm$^2$).**

Fresh Kills (Mar 15) - Asbestos

Results pending.

Ambient Air Sampling Locations

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 18) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted at Locations L, N, R due to weather conditions.

NYC / ER (Mar 19) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted at Locations L, N, R due to equipment malfunctions.

NYC / ER (Mar 20) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted at Locations L, N, R due to weather conditions.

NYC / ER (Mar 19) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 20) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/17/02**
**Sampling Date and Time:** **3/14/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/14/02 | TTW-01494 | W | 1440 | Air | 14.01 | 0.004 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01495 | E | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/14/02 | TTW-01496 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01497 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01498 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01500 | K | 1476 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/14/02 | TTW-01501 | D | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/14/02 | TTW-01502 | D-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/14/02 | TTW-01503 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01504 | C-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01505 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01506 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01507 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01508 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01509 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01510 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01511 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | TTW-01512 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/17/2002**
**Sampling Date and Time:** **3/15/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/15/02 | FB031502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/15/02 | TB031502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/15/02 | TTW-01499 | W | 1161 | Air | 9.55 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 03/15/02 | TTW-01513 | E | 1096.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/15/02 | TTW-01514 | S | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01515 | U | 1240.75 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0050 |
| 03/15/02 | TTW-01516 | V | 1249.2 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01517 | K | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/15/02 | TTW-01518 | D | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01519 | C | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01520 | B | 1200.8 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0051 |
| 03/15/02 | TTW-01521 | A | 1239 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0050 |
| 03/15/02 | TTW-01524 | Q | 1216.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/15/02 | TTW-01525 | Q-Dup | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01526 | J | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01527 | N | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/15/02 | TTW-01528 | M1 | 1258.2 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | TTW-01529 | L | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

*No Samples submitted for Locations F and F-Dup due to pump faults*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/19/02**
**Sampling Date and Time: 3/15/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/15/02 | TTW-01530 | W | 1476 | Air | 28.03 | 0.007 | 0 | 0 | <16.00 | <0.0042 |
| 03/15/02 | TTW-01531 | S | 1404 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 03/15/02 | TTW-01532 | S-Dup | 1208.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/15/02 | TTW-01533 | U | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/15/02 | TTW-01534 | V | 1368 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0045 |
| 03/15/02 | TTW-01535 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | TTW-01536 | K-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/15/02 | TTW-01537 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/15/02 | TTW-01538 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/15/02 | TTW-01539 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | TTW-01540 | A | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/15/02 | TTW-01541 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | TTW-01542 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/15/02 | TTW-01543 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | TTW-01544 | N | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/15/02 | TTW-01545 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/15/02 | TTW-01546 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample Submitted for Location E due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/18/2002**
**Sampling Date and Time: 3/16/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/16/02 | FB031602 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/16/02 | TB031602 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/16/02 | TTW-01547 | W | 1440 | Air | 24.20 | 0.006 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01548 | E | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0040 |
| 03/16/02 | TTW-01549 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01550 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/16/02 | TTW-01551 | K | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/16/02 | TTW-01552 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/16/02 | TTW-01553 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01554 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01555 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01556 | A-Dup | 1476 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/16/02 | TTW-01557 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01558 | Q | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01559 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01560 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01561 | N-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01562 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/16/02 | TTW-01563 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Samples submitted for Locations U, due to the pump being stolen from the location*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/7/02 0714 to 2112

**Data Validation Date: 03/12/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/07/02 | LF03280 | P-1 | 1142.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/07/02 | LF03281 | P-2 | 1048.90 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/07/02 | LF03282 | P-3 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/07/02 | LF03283 | P-4 | 1234.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/07/02 | LF03284 | P-5 | 1091.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/07/02 | LF03285 | P-6 | 1247.40 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/07/02 | LF03286 | P-7 | 1179.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/07/02 | LF03287 | P-8 | 1267.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/07/02 | LF03288 | W-12A | 1238.40 | Air | 38.22 | 0.012 | 0 | 0 | <15.75 | <0.0049 |
| 03/07/02 | LF03289 | W-12B | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/07/02 | LF03290 | B-13 | 1304.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/07/02 | LF03291 | B-14 | 1288.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/07/02 | LF03292 | T-15 | 1260.00 | Air | 11.46 | 0.004 | 0 | 0 | <15.75 | <0.0048 |
| 03/07/02 | LF03293 | T-16 | 1296.00 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0047 |
| 03/07/02 | LF03294 | O-17 | 1179.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/07/02 | LF03295 | O-18 | 1150.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/07/02 | LF03296 | O-19 | 1243.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/07/02 | LF03297 | MPHS-20 | 1225.50 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/07/02 | LF03298 | W-12B Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/07/02 | LF03299 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/07/02 | LF03300 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/12/02 0742 to 2038

**Data Validation Date: 03/15/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/12/02 | LF03385 | P-1 | 1090.65 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0046 |
| 03/12/02 | LF03386 | P-2 | 856.00 | Air | <7.0 | <0.003 | 0 | 0 | <9.84 | <0.0044 |
| 03/12/02 | LF03387 | P-3 | 1234.35 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/12/02 | LF03388 | P-4 | 1105.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/12/02 | LF03389 | P-5 | 1271.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/12/02 | LF03390 | P-6 | 1121.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/12/02 | LF03393 | P-8 | 1026.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/12/02 | LF03394 | W-12A | 1230.45 | Air | 99.36 | 0.031 | ***3 | 0 | 47.24 | 0.0148 |
| 03/12/02 | LF03395 | W-12B | 976.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/12/02 | LF03396 | B-13 | 1217.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/12/02 | LF03397 | B-14 | 1206.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/12/02 | LF03398 | T-15 | 1295.40 | Air | 15.29 | 0.005 | 0 | 0 | <15.75 | <0.0047 |
| 03/12/02 | LF03399 | T-16 | 1404.00 | Air | 26.75 | 0.007 | 0 | 0 | <15.75 | <0.0043 |
| 03/12/02 | LF03400 | O-17 | 1122.95 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/12/02 | LF03401 | O-18 | 1228.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/12/02 | LF03402 | O-19 | 1209.00 | Air | NA[3] | NA[3] | NA[3] | NA[3] | NA[3] | NA[3] |
| 03/12/02 | LF03403 | MPHS-20 | 1118.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/12/02 | LF03404 | P-4 Dup | 1229.80 | Air | NA[3] | NA[3] | NA[3] | NA[3] | NA[3] | NA[3] |
| 03/12/02 | LF03405 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/12/02 | LF03406 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

*No Sample was submitted for LF03392 Location P7 due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to Wet Filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/14/02 0717 to 2125**

**Data Validation Date: 03/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/14/02 | LF03428 | P-1 | 1197.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/14/02 | LF03429 | P-2 | 1109.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/14/02 | LF03430 | P-3 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/14/02 | LF03431 | P-4 | 1185.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/14/02 | LF03432 | P-5 | 1249.20 | Air | 64.97 | 0.020 | ***4 | ***1 | 78.74 | 0.0243 |
| 03/14/02 | LF03433 | P-6 | 1293.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/14/02 | LF03434 | P-7 | 1049.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/14/02 | LF03435 | P-8 | 1249.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/14/02 | LF03436 | W-12A | 1051.05 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/14/02 | LF03437 | W-12B | 1038.40 | Air | <7.0 | <0.003 | 0 | ***1 | 13.12 | 0.0049 |
| 03/14/02 | LF03438 | B-13 | 1236.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/14/02 | LF03439 | B-14 | 1009.80 | Air | 9.55 | 0.004 | 0 | 0 | <11.25 | <0.0043 |
| 03/14/02 | LF03440 | T-15 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/14/02 | LF03441 | T-16 | 1296.00 | Air | 61.15 | 0.018 | ***1 | 0 | 15.75 | 0.0047 |
| 03/14/02 | LF03442 | O-17 | 1295.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/14/02 | LF03443 | O-18 | 1073.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/14/02 | LF03444 | O-19 | 1155.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/14/02 | LF03445 | MPHS-20 | 1157.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/14/02 | LF03446 | P-6 Dup | 1206.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/14/02 | LF03447 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/14/02 | LF03448 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/13/02 0737 to 2131**

**Data Validation Date: 03/19/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/13/02 | LF03407 | P-1 | 1008.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/13/02 | LF03408 | P-2 | 1042.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/13/02 | LF03409 | P-3 | 1209.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/13/02 | LF03410 | P-4 | 1153.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/13/02 | LF03411 | P-5 | 1137.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/13/02 | LF03412 | P-6 | 1153.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/13/02 | LF03413 | P-7 | 1166.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/13/02 | LF03414 | P-8 | 1005.10 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/13/02 | LF03415 | W-12A | 1242.00 | Air | 57.32 | 0.018 | ***3 | 0 | 47.24 | 0.0146 |
| 03/13/02 | LF03416 | W-12B | 1138.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/13/02 | LF03417 | B-13 | 1219.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/13/02 | LF03418 | B-14 | 870.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0050 |
| 03/13/02 | LF03419 | T-15 | 1368.00 | Air | 15.29 | 0.004 | 0 | 0 | <15.75 | <0.0044 |
| 03/13/02 | LF03420 | T-16 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/13/02 | LF03421 | O-17 | 952.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/13/02 | LF03422 | O-18 | 1164.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/13/02 | LF03423 | O-19 | 1145.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/13/02 | LF03424 | MPHS-20 | 924.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0047 |
| 03/13/02 | LF03425 | P-5 Dup | 1112.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/13/02 | LF03426 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/13/02 | LF03427 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to Damaged Filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/20/02**

| File Name | NYC1333 | NYC1334 | NYC1335 | NYC1336 | NYC1338 | NYC1337 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07619 | A07620 | A07621 | A07622 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/19/02**

| File Name | NYC1325 | NYC1326 | NYC1327 | NYC1328 | NYC1330 | NYC1329 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07615 | A07616 | A07617 | A07618 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday, March 22, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:00 p.m. on March 22**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 17 samples taken in and around ground zero from March 11. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,082, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Air Sampling for VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 21 in the direct area of the excavation at ground zero. No VOCs were detected. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

**Silicates Sampling** - 10 samples, taken on March 12 in and around ground zero, were analyzed for silicates. No silicates were detected in any of the samples.

**Particulate Monitoring from Datarams** - results from March 21 showed nothing of significance.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 18 samples were collected on March 15. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

**Particulate Monitoring** - Particulate monitoring at Fresh Kills landfill for March 19 - 22 showed nothing of significance. No monitoring was conducted March 22 due to weather conditions.

**Bulk Dust Sampling** – 6 dust samples taken on March 12 at Fresh Kills contained 1% or less of asbestos.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, March 22, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24 PM)

Results pending.

NYC / ER (Feb 25 PM)

Results pending.

NYC / ER (Mar 6 PM)

Results pending.

NYC / ER (Mar 7 AM)

Results pending.

NYC / ER (Mar 8 PM)

Results pending.

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 11, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location E) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 8) - Asbestos

Results pending.

Fresh Kills (Mar 9) - Asbestos

Results pending.

Fresh Kills (Mar 15, 0755 - 2148 hrs) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 19) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-5, and P-6) based on daily average concentrations.

Fresh Kills (Mar 20) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Fresh Kills (Mar 21) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Mar 22) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Mar 12) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 21) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8½ hours.
Station L had an average of 36.70 $ug/m^3$ with a maximum reading of 78.17 $ug/m^3$.
Station N had an average of 30.86 $ug/m^3$ with a maximum reading of 48.21 $ug/m^3$.
Station R had an average of 32.15 $ug/m^3$ with a maximum reading of 71.97 $ug/m^3$.

NYC / ER (Mar 21) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

Fresh Kills (Mar 12) - Asbestos

6 bulk samples collected from the landfill sift and active bank areas, and the barge unloading areas.
Asbestos was either not detected or at less than 1% chrysotile or 1% amosite in all of the samples.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/11/02 1200 to 2400

**Data Validation Date: 03/15/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/11/02 | TTW-01387 | E-Dup | 1424.75 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/11/02 | TTW-01388 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01389 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01390 | U-Dup | 1107.25 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0046 |
| 03/11/02 | TTW-01391 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01392 | K | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01393 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01394 | C | 1440 | Air | 12.74 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01395 | B | 1440 | Air | 10.83 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01396 | A | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01397 | F | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/11/02 | TTW-01398 | Q | 1404 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0044 |
| 03/11/02 | TTW-01399 | J | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01400 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/11/02 | TTW-01401 | M1 | 1440 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01402 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | TTW-01403 | W | 1476 | Air | 21.66 | 0.006 | 0 | 0 | <16.00 | <0.0042 |

*No Sample Submitted for Location E Due to pump malfunction*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/15/02 0755 to 2148

**Data Validation Date: 03/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/15/02 | LF03449 | P-1 | 1022.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/15/02 | LF03450 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/15/02 | LF03451 | P-3 | 1175.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/15/02 | LF03452 | P-4 | 1060.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/15/02 | LF03453 | P-5 | 1088.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/15/02 | LF03454 | P-6 | 1074.15 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/15/02 | LF03455 | P-7 | 1162.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/15/02 | LF03456 | P-8 | 1165.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/15/02 | LF03457 | W-12A | 1134.00 | Air | 40.76 | 0.014 | 0 | 0 | <13.12 | <0.0045 |
| 03/15/02 | LF03458 | W-12B | 945.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 03/15/02 | LF03459 | B-13 | 1120.35 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/15/02 | LF03460 | B-14 | 1203.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/15/02 | LF03461 | T-15 | 1368.00 | Air | 19.11 | 0.005 | 0 | 0 | <15.75 | <0.0044 |
| 03/15/02 | LF03462 | T-16 | 1296.00 | Air | 19.11 | 0.006 | 0 | 0 | <15.75 | <0.0047 |
| 03/15/02 | LF03463 | O-17 | 1207.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/15/02 | LF03464 | O-18 | 1208.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/15/02 | LF03465 | O-19 | 1128.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/15/02 | LF03466 | MPHS-20 | 1150.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/15/02 | LF03467 | P-7 Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/15/02 | LF03468 | Lot Blank | 0.00 | Air | NA[3] | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/15/02 | LF03469 | Trip Blank | 0.00 | Air | NA[3] | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to damaged container
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/12/01 0720 to 1400**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | Quartz $mg/m^3$ | Cristobalite $mg/m^3$ | Tridymite $mg/m^3$ |
|---|---|---|---|---|---|---|---|
| | | | Liters | | | | |
| 3/12/01 | TTWS-0118 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0117 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0116 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0115 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0114 | D | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0110 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0113 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0111 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0112 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/01 | TTWS-0109 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04890

NS: Not sampled

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

ERT 3/19/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-12-01silica.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 21, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 461 | 07:41 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 38.4 | 50.9 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 177 | 01:29 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 40.5 | 768.2 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 901 | 07:31 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 34.3 | 72.3 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 507 | 08:27 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 26.3 | 48.1 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | 2621 | 1 | 2630 | 07:18 | 10 | 00:00:10 | 1 | 0.0 | 0.1 | 25.0 | 128.2 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 19 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 487 | 08:07 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 38.4 | 50.9 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 975 | 08:08 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 36.8 | 67.7 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 977 | 08:08 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 43.9 | 66.3 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 486 | 08:06 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 34.4 | 50.0 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | 2621 | 1 | -- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |

NOTES:

No data was collected from DataRam Serial Number 2621 at Perimeter Location 8 malfunction of the Data Ram instrument.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 21, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D076 |
| **Flow Rate (liters/minute)** | 1.0 | 1.0 | 1.0 |
| **Start Time** | 0631 | 0635 | 0618 |
| **Stop Time** | 1502 | 1506 | 1449 |
| **Run Time (minutes)** | 511 | 511 | 511 |
| **Maximum Concentration ($ug/m^3$)** | 78.17 | 48.21 | 71.97 |
| **Average Concentration ($ug/m^3$)** | 36.70 | 30.86 | 32.15 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/21/02**

| File Name | NYC1341 | NYC1342 | NYC1343 | NYC1344 | NYC1346 | NYC1345 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07623 | A07624 | A07625 | A07626 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 3/12/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/12/02 | 06004 | B-14 | Soil | 0.52% Chrysotile | 35% Cellulose<br>35% Fiber Glass | 29.48% Other |
| 03/12/02 | 06005 | B-14 | Soil | None | 40% Cellulose<br>35% Fiber Glass | 25% Other |
| 03/12/02 | 06006 | B-13 | Soil | None | 35% Cellulose<br>35% Fiber Glass | 30% Other |
| 03/12/02 | 06007 | B-13 | Soil | 0.25% Amosite | 30% Cellulose<br>35% Fiber Glass | 34.75% Other |
| 03/12/02 | 06008 | LF - Area D - Sifting # 3 | Soil | None | 30% Cellulose<br>30% Fiber Glass | 40% Other |
| 03/12/02 | 06009 | South - Active Bank | Soil | None | 25% Cellulose<br>30% Fiber Glass | 45% Other |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, March 23-25, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 10:45 a.m. on March 26**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 82 samples taken in and around ground zero on February 24 and 25, and from March 6 through March 8. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,164, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 9. All samples were below the AHERA standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on March 24.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, March 25, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Feb 24, 1200 - 2159 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location K-duplicate) was not collected due to an equipment malfunction.

NYC / ER (Feb 25, 1200 - 2141 hrs)

All 14 samples analyzed were below the TEM AHERA standard.
2 samples (Locations B and K) were not collected due to equipment malfunctions.
2 samples (Locations V and S) were not collected due to the pumps having been tampered with.

NYC / ER (Mar 6, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 7, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 8, 1200 - 2400 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
3 samples (Locations A-duplicate, Q, and Q-duplicate) were not collected due to equipment malfunctions.

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 8) - Asbestos

Results pending.

Fresh Kills (Mar 9, 0715 - 2110 hrs) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 23) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Fresh Kills (Mar 24) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Mar 12) - Silicates

**Errata**: Data previously reported on the March 22 Sampling Situation Report was incorrectly dated as March 12, 2001. The correct date is March 12, 2002. All of the data remains the same.

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 02/26/02**
**Sampling Date and Time:** 2/24/02 1200 to 2159

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 02/24/02 | TTW-00864 | L | 1198 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 02/24/02 | TTW-00865 | M1 | 1148 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 02/24/02 | TTW-00866 | N | 1008.15 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/24/02 | TTW-00867 | J | 1051.05 | Air | <7.0 | <0.003 | ***2 | 0 | 26.67 | 0.0098 |
| 02/24/02 | TTW-00868 | Q | 1104 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/24/02 | TTW-00869 | F | 1038 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0042 |
| 02/24/02 | TTW-00870 | A | 448 | Air | <7.0 | <0.006 | 0 | 0 | <8.00 | <0.0069 |
| 02/24/02 | TTW-00871 | A-Dup | 938.6 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/24/02 | TTW-00872 | B | 1148 | Air | 9.55 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 02/24/02 | TTW-00873 | C | 1086 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 02/24/02 | TTW-00874 | D | 996 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/24/02 | TTW-00875 | K | 898.95 | Air | <7.0 | <0.003 | ***1 | 0 | 8 | 0.0034 |
| 02/24/02 | TTW-00876 | U | 1033.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 02/24/02 | TTW-00877 | V | 943.25 | Air | 7.64 | 0.003 | 0 | 0 | <11.43 | <0.0047 |
| 02/24/02 | TTW-00878 | S | 1106 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 02/24/02 | TTW-00879 | E | 1004 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 02/24/02 | TTW-00880 | W | 390 | Air | <7.0 | <0.007 | 0 | 0 | <11.43 | <0.0113 |

*No sample for Location K- Duplicate due to flow Fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-02-24-02-pm rev1.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 2/25/02 1200 to 2141

**Data Validation Date: 03/1/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 02/25/02 | TTW-00899 | L | 1034 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/25/02 | TTW-00900 | M1 | 1162 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0043 |
| 02/25/02 | TTW-00901 | N | 1050 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/25/02 | TTW-00902 | J | 1088.1 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 02/25/02 | TTW-00903 | Q | 1126 | Air | <7.0 | <0.005 | 0 | 0 | <13.12 | <0.0045 |
| 02/25/02 | TTW-00904 | F | 940 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 02/25/02 | TTW-00905 | A | 1150 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 02/25/02 | TTW-00906 | B-Dup | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 02/25/02 | TTW-00907 | C | 1082.25 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/25/02 | TTW-00908 | D | 986 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 02/25/02 | TTW-00909 | U | 1035.5 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 02/25/02 | TTW-00910 | S-Duplicate | 1074 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 02/25/02 | TTW-00911 | E | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 02/25/02 | TTW-00912 | W | 994.5 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |

*No sample for Location B, K due to Pump Fault*
*No sample for Location V and S, due to pump being tampered with*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
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M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Hellport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
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NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/9/02**
**Sampling Date and Time:** **3/6/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/06/02 | TTW-01213 | E | 1263.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/06/02 | TTW-01214 | S | 1054.8 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/06/02 | TTW-01215 | U | 1227.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/06/02 | TTW-01216 | V | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/06/02 | TTW-01217 | K | 1205.75 | Air | 8.28 | 0.003 | 0 | 0 | <13.33 | <0.0043 |
| 03/06/02 | TTW-01218 | D | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/06/02 | TTW-01219 | D-Dup | 1152 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/06/02 | TTW-01220 | C | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/06/02 | TTW-01221 | B-Dup | 1171.05 | Air | 12.10 | 0.004 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | TTW-01222 | B | 1368 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0045 |
| 03/06/02 | TTW-01223 | A | 1168.2 | Air | 10.19 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | TTW-01224 | F | 1153.8 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | TTW-01225 | Q | 1220.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/06/02 | TTW-01226 | J | 1231.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/06/02 | TTW-01227 | N | 1244.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/06/02 | TTW-01228 | M1 | 1227.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/06/02 | TTW-01229 | L | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/06/02 | TTW-01230 | W | 1293.15 | Air | 14.01 | 0.004 | 0 | 0 | <16.00 | <0.0048 |

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S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
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**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
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**** Extremely low sample volume collected
***** Amosite
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-06-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/09/2002**
**Sampling Date and Time:** **3/7/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 03/07/02 | FB030702 | Field Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[1] | NA[1] | NA[2] |
| 03/07/02 | TB030702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[1] | NA[1] | NA[2] |
| 03/07/02 | TTW-01231 | E | 1195.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/07/02 | TTW-01232 | E-Dup | 1051.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/07/02 | TTW-01233 | S | 1058.4 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0049 |
| 03/07/02 | TTW-01234 | U | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/07/02 | TTW-01235 | V | 1263.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/07/02 | TTW-01236 | K | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 03/07/02 | TTW-01237 | D | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/07/02 | TTW-01238 | C | 1100.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/07/02 | TTW-01239 | C-Dup | 1035 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 03/07/02 | TTW-01240 | B | 1160.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/07/02 | TTW-01241 | A | 1006.2 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0044 |
| 03/07/02 | TTW-01242 | F | 1214.1 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/07/02 | TTW-01243 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/07/02 | TTW-01244 | J | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 03/07/02 | TTW-01245 | N | 1216.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/07/02 | TTW-01246 | M1 | 1274.4 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0060 |
| 03/07/02 | TTW-01247 | L | 1204.2 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0064 |
| 03/07/02 | TTW-01248 | W | 1100.75 | Air | 10.19 | 0.004 | 0 | 0 | <13.33 | <0.0047 |

**Sampling Locations:**
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H: South side of Chase Manhattan Plaza at Pine St.
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R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-07-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/12/02**
**Sampling Date and Time: 3/8/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/08/02 | TTW-01283 | E | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/08/02 | TTW-01284 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01285 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/08/02 | TTW-01286 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01287 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01288 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01289 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01290 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/08/02 | TTW-01291 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01292 | F | 1356 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/08/02 | TTW-01293 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01294 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | TTW-01295 | M1 | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/08/02 | TTW-01296 | L | 1256.4 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/08/02 | TTW-01297 | W | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |

*No samples collected at locations A-Dup, Q, and Q-Dup due to pump Faults*

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F: Northern median strip of Vesey & West St
G: Church and Duane St.
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**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/9/02 0715 to 2110**

**Data Validation Date: 03/12/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/09/02 | LF03322 | P-1 | 1261.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/09/02 | LF03323 | P-2 | 1150.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/09/02 | LF03324 | P-3 | 1149.20 | Air | <7.0 | <0.002 | 0 | ***1 | 13.12 | 0.0044 |
| 03/09/02 | LF03325 | P-4 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/09/02 | LF03326 | P-5 | 1059.10 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/09/02 | LF03327 | P-6 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/09/02 | LF03328 | P-7 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/09/02 | LF03329 | P-8 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/09/02 | LF03330 | W-12A | 1107.70 | Air | 53.50 | 0.019 | 0 | 0 | <13.12 | <0.0046 |
| 03/09/02 | LF03331 | W-12B | 1177.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/09/02 | LF03332 | B-13 | 1176.45 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/09/02 | LF03333 | B-14 | 1191.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/09/02 | LF03334 | T-15 | 1224.00 | Air | 11.46 | 0.004 | 0 | 0 | <15.75 | <0.0050 |
| 03/09/02 | LF03335 | T-16 | 1296.00 | Air | 29.30 | 0.009 | 0 | 0 | <15.75 | <0.0047 |
| 03/09/02 | LF03336 | O-17 | 1141.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/09/02 | LF03337 | O-18 | 1251.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/09/02 | LF03338 | O-19 | 1149.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/09/02 | LF03339 | MPHS-20 | 1261.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/09/02 | LF03340 | P-1 Dup | 1053.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/09/02 | LF03341 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/09/02 | LF03342 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-09-02.xls

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 24, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs) | Avg. Time (sec) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D088 | 1 | 960 | 08:00 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 43.27 | 474.49 |
| 3 | -74.198685 | 40.570054 | D089 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.16 | 414.15 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | 2621 | 1 | - | - | 10 | 00:00:30 | 1 | 0.0 | 0.1 | - | - |
| 6 | -74.207406 | 40.563818 | D075 | 1 | 962 | 08:01 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 19.82 | 77.65 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D074 | 1 | 965 | 08:03 | 10 | 00:00:10 | 1 | 0.0 | 0.1 | 19.83 | 235.21 |

NOTES:

No data was collected from DataRam Serial Number 2621 at Perimeter Location P5 due to system failure.

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/12/02 0720 to 1400**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 3/12/02 | TTWS-0118 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0117 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0116 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0115 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0114 | D | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0110 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0113 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0111 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0112 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/12/02 | TTWS-0109 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

coc# 04890

NS: Not sampled

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

ERT 3/19/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-12-02silica.xls

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, March 26, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on March 26**

Lower Manhattan:

**Air Sampling for Particulates** - EPA collected samples from March 23 through March 25 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). Samples were also collected at Locations "N" and "R" on March 22. All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOCs** - Sampling for volatile organic compounds (VOCs) was conducted from March 22 through March 25 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from March 22 through March 25 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 8. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, March 26, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 8, 0716 - 2050 hrs) - Asbestos

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 25 - 26) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 22) - Particulate Monitoring (Dataram)

Particulate levels noted at two locations (Stations N and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Particulate measurements were not taken at Location L due to an equipment malfunction.
Station N had an average of 9.83 $ug/m^3$ with a maximum reading of 166.70 $ug/m^3$.
Station R had an average of 10.63 $ug/m^3$ with a maximum reading of 107.69 $ug/m^3$.

NYC / ER (Mar 23) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 21.09 $ug/m^3$ with a maximum reading of 92.73 $ug/m^3$.
Station N had an average of 15.27 $ug/m^3$ with a maximum reading of 50.15 $ug/m^3$.
Station R had an average of 43.43 $ug/m^3$ with a maximum reading of 18.96 $ug/m^3$.

NYC / ER (Mar 24) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 29.43 ug/$m^3$ with a maximum reading of 123.90 ug/$m^3$.
Station N had an average of 20.68 ug/$m^3$ with a maximum reading of 117.27 ug/$m^3$.
Station R had an average of 26.59 ug/$m^3$ with a maximum reading of 86.01 ug/$m^3$.

NYC / ER (Mar 25) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 14.85 ug/$m^3$ with a maximum reading of 38.03 ug/$m^3$.
Station N had an average of 12.05 ug/$m^3$ with a maximum reading of 28.92 ug/$m^3$.
Station R had an average of 13.49 ug/$m^3$ with a maximum reading of 39.98 ug/$m^3$.

NYC / ER (Mar 22) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 23) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 24) - Volatile Organics (Mobile Laboratory)

Aside from two compounds identified above the detection limit (20 ppbv) from a ground surface sample collected at the South Tower location, no other volatile organic compounds were detected above the detection limit (20 ppbv) at the other locations (Washing Tent, Austin Tobin Plaza, and North Tower) that were sampled.

NYC / ER (Mar 25) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/8/02 0716 to 2050

**Data Validation Date: 03/12/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/08/02 | LF03301 | P-1 | 1103.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/08/02 | LF03302 | P-2 | 1072.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/08/02 | LF03303 | P-3 | 1177.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/08/02 | LF03304 | P-4 | 984.30 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/08/02 | LF03305 | P-5 | 1110.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/08/02 | LF03306 | P-6 | 1243.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/08/02 | LF03307 | P-7 | 1211.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/08/02 | LF03308 | P-8 | 1171.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/08/02 | LF03309 | W-12A | 1296.00 | Air | 39.49 | 0.012 | 0 | 0 | <15.75 | <0.0047 |
| 03/08/02 | LF03310 | W-12B | 1179.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/08/02 | LF03311 | B-13 | 1110.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/08/02 | LF03312 | B-14 | 1026.30 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/08/02 | LF03313 | T-15 | 1296.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/08/02 | LF03314 | T-16 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/08/02 | LF03315 | O-17 | 1174.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/08/02 | LF03316 | O-18 | 1127.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/08/02 | LF03317 | O-19 | 1055.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/08/02 | LF03318 | MPHS-20 | 1261.70 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/08/02 | LF03319 | W-12A Dup | 1067.40 | Air | 47.13 | 0.017 | 0 | 0 | <13.12 | <0.0047 |
| 03/08/02 | LF03320 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/08/02 | LF03321 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-08-02.xls

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 25, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0651 | 0654 | 0639 |
| Stop Time | 1441 | 1444 | 1429 |
| Run Time (minutes) | 470 | 470 | 470 |
| Maximum Concentration ($ug/m^3$) | 38.03 | 28.92 | 39.98 |
| Average Concentration ($ug/m^3$) | 14.85 | 12.05 | 13.49 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 23, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0642 | 0644 | 0630 |
| Stop Time | 1432 | 1435 | 1430 |
| Run Time (minutes) | 470 | 471 | 480 |
| Maximum Concentration ($ug/m^3$) | 92.73 | 50.15 | 43.43 |
| Average Concentration ($ug/m^3$) | 21.09 | 15.27 | 18.96 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 24, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0631 | 0634 | 0616 |
| Stop Time | 1402 | 1405 | 1400 |
| Run Time (minutes) | 451 | 451 | 464 |
| Maximum Concentration ($ug/m^3$) | 123.90 | 117.27 | 86.01 |
| Average Concentration ($ug/m^3$) | 29.43 | 20.68 | 26.59 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 22, 2002

| Location | L* | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D076 |
| **Flow Rate (liters/minute)** | - | 2.0 | 2.0 |
| **Start Time** | - | 0639 | 0624 |
| **Stop Time** | - | 1435 | 1430 |
| **Run Time (minutes)** | - | 476 | 486 |
| **Maximum Concentration ($ug/m^3$)** | - | 166.70 | 107.69 |
| **Average Concentration ($ug/m^3$)** | - | 9.83 | 10.63 |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/25/02**

| File Name | NYC1373 | NYC1374 | NYC1375 | NYC1376 | NYC1378 | NYC1377 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07639 | A07640 | A07641 | A07642 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/23/02**

| File Name | NYC1357 | NYC1358 | NYC1359 | NYC1360 | NYC1362 | NYC1361 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07631 | A07632 | A07633 | A07634 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/24/02**

| File Name | NYC1365 | NYC1366 | NYC1367 | NYC1368 | NYC1370 | NYC1369 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07635 | A07636 | A07637 | A07638 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | 38 |
| Acetone | RL | RL | RL | RL | RL | 21 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/22/02**

| File Name | NYC1349 | NYC1350 | NYC1351 | NYC1352 | NYC1354 | NYC1353 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07627 | A07628 | A07629 | A07630 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Wednesday, March 27, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:45 p.m. on March 27**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 69 samples taken in and around ground zero from March 16 through March 18. EPA also sampled for asbestos at two additional lower Manhattan locations from March 7 through March 9, and from March 11 through March 13. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,245, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Air Sampling for Particulates** - EPA collected samples on March 26 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOCs** - Sampling for volatile organic compounds (VOCs) was conducted on March 26 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on March 26 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOCs.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 16. All samples were below the AHERA standard.

**Elsewhere in New York City:**

**Air Sampling for Asbestos** - Samples were collected from March 7 through March 9, and from March 11 through March 13, at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, March 27, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 16, 1200 - 2359 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location E-duplicate) was not collected due to an equipment malfunction.
1 sample (Location U) was not collected since the pump was stolen.
Note: Low sample volume reported.

NYC / ER (Mar 17, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location U) was not collected since the pump was stolen.

NYC / ER (Mar 17, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 18, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 16, 0810 - 2149 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 17, 0708 - 2024 hrs)

Results pending.

Ambient Air Sampling Locations

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 7 - 9) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 21 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations)

Results pending.

NYC / ER (Mar 11 - 13) - Asbestos Monitoring (Particulate Monitoring Stations)

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 21 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 26) - Particulate Monitoring (Dataram)

Particulate levels noted at three locations (Stations L, N, and R) were below the OSHA TWA.
Instruments operated approximately 4 hours due to weather conditions.
Station L had an average of 30.16 $ug/m^3$ with a maximum reading of 99.52 $ug/m^3$.
Station N had an average of 26.79 $ug/m^3$ with a maximum reading of 56.93 $ug/m^3$.
Station R had an average of 32.32 $ug/m^3$ with a maximum reading of 58.46 $ug/m^3$.

NYC / ER (Mar 26) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/19/02**
**Sampling Date and Time:** 3/16/02 1200 to 2359

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/16/02 | TTW-01564 | E | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/16/02 | TTW-01566 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01567 | V | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/16/02 | TTW-01568 | K | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/16/02 | TTW-01569 | D | 1440 | Air | 10.83 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01570 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01571 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01572 | A | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/16/02 | TTW-01573 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01574 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01575 | J | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/16/02 | TTW-01576 | J-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01577 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | TTW-01578 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/16/02 | TTW-01579 | L | 200 | Air | <7.0 | <0.013 | 0 | 0 | <8.00 | <0.0154 |
| 03/16/02 | TTW-01580 | W | 1440 | Air | 19.11 | 0.005 | 0 | 0 | <16.00 | <0.0043 |

*No Sample Submitted for Location U due to pump being stolen*
*No Sample Submitted for Location E -Dup due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/18/2002**
**Sampling Date and Time:** **3/17/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/17/02 | FB031702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/17/02 | TB031702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/17/02 | TTW-01581 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01582 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01583 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01584 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01585 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01586 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01587 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01588 | B-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01589 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01590 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01591 | F-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/17/02 | TTW-01592 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01593 | J | 1165.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/17/02 | TTW-01594 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01595 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01596 | L | 1476 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0042 |
| 03/17/02 | TTW-01597 | W | 1476 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0042 |

*No Samples submitted for Locations U, due to the pump being stolen from the location*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-17-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/17/02 1200 to 2400

**Data Validation Date: 03/20/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 03/17/02 | TTW-01598 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01599 | S | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01600 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/17/02 | TTW-01601 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01602 | V-Dup | 1584 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0039 |
| 03/17/02 | TTW-01603 | K | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/17/02 | TTW-01604 | D | 1440 | Air | 7.01 | 0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/17/02 | TTW-01605 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/17/02 | TTW-01606 | B | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01607 | B-Dup | 1138.1 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0045 |
| 03/17/02 | TTW-01608 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01609 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01610 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01611 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01612 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01613 | L | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | TTW-01614 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | TTW-01615 | W | 1440 | Air | 29.30 | 0.008 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/20/2002**
**Sampling Date and Time: 3/18/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/18/02 | FB031802 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/18/02 | TB031802 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/18/02 | TTW-01616 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01617 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01618 | U | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/18/02 | TTW-01619 | V | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/18/02 | TTW-01620 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01621 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01622 | C | 1224 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/18/02 | TTW-01623 | B | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01624 | A | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01625 | A-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01626 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01627 | Q | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/18/02 | TTW-01628 | Q-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01629 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/18/02 | TTW-01630 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01631 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01632 | L | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01633 | W | 1404 | Air | 26.11 | 0.007 | ***1 | 0 | 16 | 0.0044 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-18-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/16/02 0810 to 2149**

**Data Validation Date: 03/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 03/16/02 | LF03470 | P-1 | 1094.80 | Air | <7.0 | <0.003 | 0 | ***1 | 13.12 | 0.0046 |
| 03/16/02 | LF03471 | P-2 | 1193.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/16/02 | LF03472 | P-3 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/16/02 | LF03473 | P-4 | 1042.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/16/02 | LF03474 | P-5 | 1042.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/16/02 | LF03475 | P-6 | 1064.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/16/02 | LF03476 | P-7 | 1170.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/16/02 | LF03477 | P-8 | 1105.50 | Air | 10.19 | 0.004 | 0 | 0 | <13.12 | <0.0046 |
| 03/16/02 | LF03478 | W-12A | 1125.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/16/02 | LF03479 | W-12B | 908.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 03/16/02 | LF03480 | B-13 | 1197.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/16/02 | LF03481 | B-14 | 1149.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/16/02 | LF03482 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/16/02 | LF03483 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/16/02 | LF03484 | O-17 | 1030.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/16/02 | LF03485 | O-18 | 1051.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/16/02 | LF03486 | O-19 | 1096.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/16/02 | LF03487 | MPHS-20 | 1127.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/16/02 | LF03488 | P-8 Dup | 1130.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/16/02 | LF03489 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/16/02 | LF03490 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to damaged container
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-16-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/12/02**
**Sampling Date and Time: 3/7/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/07/02 | 7093-18-0161 | Park Row | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/07/02 | 7093-19-0161 | Chambers Street | 1220 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/07/02 | 7093-15-0159 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/07/02 | 7094-09-0149 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/07/02 | 7096-12-0155 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/07/02 | 7095-98-0155 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0036 |
| 03/07/02 | 7097-18-0152 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysolile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 3/8/02 1200 to 2400

**Data Validation Date: 3/18/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/08/02 | 7093-18-0162 | Park Row | 1336 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/08/02 | 7093-19-0162 | Chambers Street | 1400 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/08/02 | 7093-15-0160 | I.S. 143 Manhattan | 1216 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/08/02 | 7094-08-0150 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | 7096-12-0156 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/08/02 | 7095-98-0156 | P.S. 274 (Brooklyn) | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/08/02 | 7097-18-0153 | P.S. 44 (S I) | 1168 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/20/02**
**Sampling Date and Time:** **3/9/02** **1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/09/02 | 7093-18-0163 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | 7093-19-0163 | Chambers Street | 1384 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/09/02 | 7093-15-0161 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | 7094-08-0151 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | 7096-12-0157 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | 7095-98-0157 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/09/02 | 7097-18-0154 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/19/02**
**Sampling Date and Time:** **3/13/02** **1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/13/02 | 7093-18-0167 | Park Row | 1238 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/13/02 | 7093-19-0167 | Chambers Street | 1290 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/13/02 | 7093-15-0165 | I.S. 143 Manhattan | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/13/02 | 7094-09-0155 | P.S. 154 (Bronx) | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/13/02 | 7096-12-0161 | P.S. 199 (Queens) | 942 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0047 |
| 03/13/02 | 7095-98-0161 | P.S. 274 (Brooklyn) | 1414 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/13/02 | 7097-18-0158 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/15/02**
**Sampling Date and Time:** 3/11/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/11/02 | 7093-18-0165 | Park Row | 1312 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/11/02 | 7093-19-0165 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | 7093-15-0163 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | 7094-09-0153 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | 7096-12-0159 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | 7095-98-0159 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/11/02 | 7097-18-0156 | P.S. 44 (S I) | 1394 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/17/02**
**Sampling Date and Time: 3/12/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/12/02 | 7093-18-0166 | Park Row | 1422 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/12/02 | 7093-19-0166 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/12/02 | 7093-15-0164 | I.S. 143 Manhattan | 1236 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/12/02 | 7094-09-0154 | P.S. 154 (Bronx) | 1344 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/12/02 | 7096-12-0160 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/12/02 | 7095-98-0160 | P.S. 274 (Brooklyn) | 1338 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/12/02 | 7097-18-0157 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 26, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0650 | 0653 | 0636 |
| Stop Time | 1105 | 1110 | 1100 |
| Run Time (minutes) | 255 | 257 | 264 |
| Maximum Concentration ($ug/m^3$) | 99.52 | 56.93 | 58.46 |
| Average Concentration ($ug/m^3$) | 30.16 | 26.79 | 32.32 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/26/02**

| File Name | NYC1381 | NYC1382 | NYC1383 | NYC1384 | NYC1386 | NYC1385 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07643 | A07644 | A07645 | A07646 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**U.S. Environmental Protection Agency (EPA)**
**Daily Summary**
**Thursday, March 28, 2002**

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on March 28**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA sampled for asbestos at two lower Manhattan locations on March 5, 6, and 14. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,251, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Air Sampling for PCBs** - A total of 19 samples were collected on March 12 and March 14 at various locations in Lower Manhattan. PCBs were not detected.

**Air Sampling for Metals** - Ten samples were collected on January 29 at various locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 49 samples were collected on March 18, 20, and 21. A sample taken at a Wash Tent (Location W-12A) showed 157.48 structures per square millimeter on March 21, which exceeds the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on March 27.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on March 5, 6, and 14 at In'ermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, March 28, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 17, 0708 - 2024 hrs)

Results pending.

Fresh Kills (Mar 18, 0811 - 2101 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-4 and B-14-duplicate) were not collected due to equipment malfunctions.

Fresh Kills (Mar 19, 0757 - 2125 hrs)

Results pending.

Fresh Kills (Mar 20, 0822 - 2118 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-3 and P-4) were not collected due to equipment malfunctions.
1 sample (Location P-7) was not analyzed due to a damaged/wet filter.

Fresh Kills (Mar 21, 0803 - 2153 hrs)

1 of 16 samples analyzed was above the TEM AHERA standard.
**Exceedance of the TEM AHERA standard occurred at Location W-12A (157.48 S/mm$^2$).**
1 sample (Location O-17) was not collected due to an equipment malfunction.

Fresh Kills (Mar 27) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Jan 29) - Metals

10 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
**Note**: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Mar 12) - PCBs

All 9 samples analyzed did not detect any PCBs.
1 sample (Location B) was not submitted for analysis.

NYC / ER (Mar 14) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 14) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 15) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/18/02 0811 to 2101**

**Data Validation Date: 03/23/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/18/02 | LF03512 | P-1 | 1069.30 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/18/02 | LF03513 | P-2 | 1044.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/18/02 | LF03514 | P-3 | 1022.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/18/02 | LF03516 | P-5 | 1197.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/18/02 | LF03517 | P-6 | 1120.35 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/18/02 | LF03518 | P-7 | 1121.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/18/02 | LF03519 | P-8 | 1132.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/18/02 | LF03520 | W-12A | 1173.60 | Air | 22.93 | 0.008 | 0 | ***1 | 13.12 | 0.0043 |
| 03/18/02 | LF03521 | W-12B | 1118.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/18/02 | LF03522 | B-13 | 1125.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/18/02 | LF03523 | B-14 | 1242.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/18/02 | LF03524 | T-15 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/18/02 | LF03525 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/18/02 | LF03526 | O-17 | 1206.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/18/02 | LF03527 | O-18 | 1152.00 | Air | <7.0 | <0.002 | R | R | <13.12 | <0.0044 |
| 03/18/02 | LF03528 | O-19 | 1064.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/18/02 | LF03529 | MPHS-20 | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/18/02 | LF03531 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/18/02 | LF03532 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample submitted for LF03515, Location P4 and LF03530, B-14 Dup due to pump fault*

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to damaged/wet filter
R- Sample rejected due to insufficient material
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-18-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/20/02 0822 to 2118

**Data Validation Date: 03/24/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/20/02 | LF03554 | P-1 | 883.80 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0049 |
| 03/20/02 | LF03555 | P-2 | 1159.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/20/02 | LF03558 | P-5 | 1186.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/20/02 | LF03559 | P-6 | 773.50 | Air | <7.0 | <0.004 | 0 | 0 | <9.84 | <0.0049 |
| 03/20/02 | LF03560 | P-7 | 1278.00 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/20/02 | LF03561 | P-8 | 1149.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/20/02 | LF03562 | W-12A | 1152.60 | Air | 26.75 | 0.009 | ***1 | ***1 | 26.25 | 0.0088 |
| 03/20/02 | LF03563 | W-12B | 1133.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/20/02 | LF03564 | B-13 | 1081.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/20/02 | LF03565 | B-14 | 1107.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/20/02 | LF03566 | T-15 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/20/02 | LF03567 | T-16 | 1296.00 | Air | 49.68 | 0.015 | 0 | 0 | <15.75 | <0.0047 |
| 03/20/02 | LF03568 | O-17 | 1002.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/20/02 | LF03569 | O-18 | 889.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0049 |
| 03/20/02 | LF03570 | O-19 | 1094.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/20/02 | LF03571 | MPHS-20 | 1177.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/20/02 | LF03572 | P-4 Dup | 1076.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/20/02 | LF03573 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/20/02 | LF03574 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample submitted for LF03556 and LF03557 due to pump fault*

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to damaged/wet filter
R- Sample rejected due to insufficient material
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-20-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/21/02 0803 to 2153**

**Data Validation Date: 03/26/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/21/02 | LF03575 | P-1 | 1128.75 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 03/21/02 | LF03576 | P-2 | 1064.00 | Air | 7.64 | 0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/21/02 | LF03577 | P-3 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/21/02 | LF03578 | P-5 | 1184.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/21/02 | LF03579 | P-6 | 1162.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/21/02 | LF03580 | P-7 | 1174.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/21/02 | LF03581 | P-8 | 1207.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/21/02 | LF03582 | W-12A | 1292.00 | Air | <7.0 | <0.002 | ***6 ******1 | ***3 | 157.48 | 0.0469 |
| 03/21/02 | LF03583 | W-12B | 1236.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/21/02 | LF03584 | B-13 | 1262.05 | Air | 8.92 | 0.003 | ***1 | 0 | 15.75 | 0.0048 |
| 03/21/02 | LF03585 | B-14 | 1329.30 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/21/02 | LF03586 | T-15 | 1195.10 | Air | 12.74 | 0.004 | 0 | 0 | <13.12 | <0.0042 |
| 03/21/02 | LF03587 | T-16 | 1404.00 | Air | 10.19 | 0.003 | 0 | 0 | <15.75 | <0.0043 |
| 03/21/02 | LF03589 | O-18 | 975.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/21/02 | LF03590 | O-19 | 1228.50 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/21/02 | LF03591 | MPHS-20 | 693.50 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0049 |
| 03/21/02 | LF03592 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/21/02 | LF03593 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample submitted for LF03588 due to pump fault*

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
******Tremolite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to damaged/wet filter
R- Sample rejected due to insufficient material
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-21-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/12/02**
**Sampling Date and Time:** 3/5/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/05/02 | 7093-18-0159 | Park Row | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/05/02 | 7093-19-0159 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/05/02 | 7093-15-0157 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0036 |
| 03/05/02 | 7094-09-0147 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0036 |
| 03/05/02 | 7096-12-0153 | P.S. 199 (Queens) | 1436 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/05/02 | 7095-98-0153 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0036 |
| 03/05/02 | 7097-18-0150 | P.S. 44 (S I) | 1304 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 3/6/02 1200 to 2300

**Data Validation Date: 3/26/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/06/02 | 7093-18-0160 | Park Row | 1212 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/06/02 | 7093-19-0160 | Chambers Street | 1176 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/06/02 | 7093-15-0158 | I.S. 143 Manhattan | 1124 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0069 |
| 03/06/02 | 7094-09-0148 | P.S. 154 (Bronx) | 1280 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/06/02 | 7096-12-0154 | P.S. 199 (Queens) | 1320 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/06/02 | 7095-98-0154 | P.S. 274 (Brooklyn) | 1062 | Air | <7.0 | <0.003 | 0 | 0 | <16.00 | <0.0058 |
| 03/06/02 | 7097-18-0151 | P.S. 44 (S I) | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 3/14/02 1200 to 2400

**Data Validation Date: 3/19/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/14/02 | 7093-18-0168 | Park Row | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/14/02 | 7093-19-0168 | Chambers Street | 1414 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/14/02 | 7093-15-0166 | I.S. 143 Manhattan | 1430 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | 7094-09-0156 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | 7096-12-0162 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | 7095-98-0162 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/14/02 | 7097-18-0159 | P.S. 44 (S I) | 1284 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable



**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06374 | | 06374 | | 06374 | | 06373 | | 06363 | | 06364 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 3823.25 | | 4840 | |
| Date Collected | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.60 | U | 0.60 | 0 | 0.60 | U | 0.60 | 1.0 J | 0.15 | 4.0 J | 0.12 |
| Antimony | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.02 | U | 0.016 |
| Arsenic | ICAP | U | 0.085 | U | 0.085 | U | 0.085 | U | 0.085 | U | 0.022 | U | 0.017 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.075 | 0.11 | 0.065 |
| Beryllium | ICAP | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.012 | U | 0.010 |
| Cadmium | ICAP | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.004 | 0.016 | 0.003 |
| Calcium | ICAP | 3.6 | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | 4.4 | 0.92 | 29 | 0.72 |
| Chromium | ICAP | 0.83 | 0.042 | 0.69 | 0.042 | 0.80 | 0.042 | U | 0.042 | 0.19 | 0.011 | 0.18 | 0.009 |
| Cobalt | ICAP | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.009 | U | 0.007 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.12 | 0.20 | 0.091 |
| Iron | ICAP | 5.9 | 0.91 | U | 0.91 | U | 0.91 | U | 0.91 | U | 0.24 | 11 | 0.19 |
| Lead | AA-Fur | U | 0.010 | U | 0.010 | U | 0.010 | U | 0.010 | 0.035 | 0.003 | 0.26 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U | 0.87 | 5.5 | 0.68 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | 0.035 | 0.02 | 0.22 | 0.016 |
| Nickel | ICAP | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | 0.024 | 0.015 | 0.034 | 0.012 |
| Potassium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 0.96 | 1.3 | 0.76 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.02 | U | 0.015 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.007 | U | 0.005 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | 3.9 | 3.7 | U | 0.96 | U | 0.76 |
| Thallium | ICAP | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.017 | U | 0.013 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.037 | 0.024 | 0.01 | 0.03 | 0.008 |
| Zinc | ICAP | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.021 | U | 0.016 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06365 | | 06366 | | 06367 | | 06368 | | 06369 | | 06370 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | LOC B CHURCH & DEY ST | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | | S-RECTOR PLACE & SOUTH END AVE | | P-ALBANY ST. & SOUTH END AVE | |
| Air Volume (L) | | 3888 | | 5000 | | 3720 | | 4150 | | 4070 | | 4240 | |
| Date Collected | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | | 01/29/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.3 J | 0.039 | 1.2 J | 0.12 | 1.3 | 0.16 | 1.10 | 0.10 | 0.79 J | 0.15 | 1.5 | 0.14 |
| Antimony | ICAP | U | 0.020 | U | 0.016 | U | 0.021 | U | 0.019 | U | 0.019 | U | 0.018 |
| Arsenic | ICAP | U | 0.022 | U | 0.017 | U | 0.023 | U | 0.020 | U | 0.021 | U | 0.020 |
| Barium | ICAP | U | 0.081 | 0.071 | 0.06 | U | 0.085 | U | 0.076 | U | 0.078 | 0.080 | 0.074 |
| Beryllium | ICAP | U | 0.013 | U | 0.01 | U | 0.013 | U | 0.012 | U | 0.012 | U | 0.011 |
| Cadmium | ICAP | U | 0.004 | 0.005 J | 0.003 | U | 0.004 | U | 0.004 | U | 0.004 | U | 0.004 |
| Calcium | ICAP | 12 | 0.90 | 9 J | 0.7 | 8.7 | 0.94 | 6.8 | 0.80 | 4.0 | 0.86 | 8.5 | 0.82 |
| Chromium | ICAP | 0.22 | 0.011 | 0.19 | 0.008 | 0.20 | 0.011 | 0.190 | 0.010 | 0.18 | 0.010 | 0.22 | 0.010 |
| Cobalt | ICAP | U | 0.009 | U | 0.007 | U | 0.009 | U | 0.008 | U | 0.008 | U | 0.008 |
| Copper | ICAP | U | 0..11 | U | 0.088 | U | 0.12 | U | 0.11 | U | 0.11 | U | 0.10 |
| Iron | ICAP | 4.9 | 0.23 | 4.7 | 0.18 | 4.2 | 0.24 | 2.7 | 0.22 | 2.9 | 0.22 | 4.4 | 0.21 |
| Lead | AA-Fur | 0.067 | 0.003 | 0.067 | 0.002 | 0.062 | 0.003 | 0.057 | 0.002 | 0.049 | 0.002 | 0.057 | 0.002 |
| Magnesium | ICAP | 2.1 | 0.85 | 1.8 | 0.7 | 1.9 | 0.89 | 1.4 | 0.80 | 1.1 | 0.81 | 2.6 | 0.78 |
| Manganese | ICAP | 0.089 | 0.020 | 0.069 | 0.016 | 0.066 | 0.021 | U | 0.048 | 0.040 | 0.019 | 0.069 | 0.018 |
| Nickel | ICAP | 0.028 | 0.015 | 0.021 | 0.012 | 0.021 | 0.016 | 0.024 | 0.010 | 0.017 | 0.014 | 0.021 | 0.014 |
| Potassium | ICAP | U | 0.94 | U | 0.73 | U | 0.99 | U | 0.89 | U | 0.90 | U | 0.87 |
| Selenium | ICAP | U | 0.022 | U | 0.015 | U | 0.02 | U | 0.018 | U | 0.018 | U | 0.018 |
| Silver | ICAP | 0.008 | 0.006 | U | 0.005 | U | 0.007 | U | 0.006 | U | 0.007 | U | 0.006 |
| Sodium | ICAP | U | 0.9 | 1.8 | 0.7 | U | 0.99 | U | 0.89 | U | 0.90 | U | 0.87 |
| Thallium | ICAP | U | 0.017 | U | 0.013 | U | 0.017 | U | 0.016 | U | 0.016 | U | 0.015 |
| Vanadium | ICAP | 0.019 | 0.009 | 0.016 | 0.007 | 0.017 | 0.010 | 0.025 | 0.010 | 0.018 | 0.009 | 0.025 | 0.009 |
| Zinc | ICAP | U | 0.020 | U | 0.016 | U | 0.021 | U | 0.020 | U | 0.019 | U | 0.019 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06371 | | 06372 | |
|---|---|---|---|---|---|
| Location | | E-LIBERTY ST. & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4465.5 | | 4990 | |
| Date Collected | | 01/29/02 | | 01/29/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.91 | 0.13 | 0.76 | 0.12 |
| Antimony | ICAP | U | 0.018 | U | 0.016 |
| Arsenic | ICAP | U | 0.019 | U | 0.017 |
| Barium | ICAP | U | 0.071 | U | 0.063 |
| Beryllium | ICAP | U | 0.011 | U | 0.010 |
| Cadmium | ICAP | U | 0.004 | U | 0.003 |
| Calcium | ICAP | 5.5 | 0.78 | 4.8 | 0.70 |
| Chromium | ICAP | 0.18 | 0.009 | 0.14 | 0.008 |
| Cobalt | ICAP | U | 0.008 | U | 0.007 |
| Copper | ICAP | U | 0.099 | U | 0.089 |
| Iron | ICAP | 2.4 | 0.20 | 2.0 | 0.18 |
| Lead | AA-Fur | 0.045 | 0.002 | 0.048 | 0.002 |
| Magnesium | ICAP | 1.6 | 0.74 | 1.4 | 0.66 |
| Manganese | ICAP | 0.042 | 0.017 | 0.037 | 0.016 |
| Nickel | ICAP | 0.021 | 0.013 | 0.068 | 0.012 |
| Potassium | ICAP | U | 0.82 | U | 0.74 |
| Selenium | AA-Fur | 0.018 J | 0.017 | U | 0.015 |
| Silver | ICAP | U | 0.006 | U | 0.005 |
| Sodium | ICAP | U | 0.82 | U | 0.74 |
| Thallium | ICAP | U | 0.015 | U | 0.013 |
| Vanadium | ICAP | 0.018 | 0.008 | 0.015 | 0.007 |
| Zinc | ICAP | U | 0.018 | U | 0.016 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/14/02**

| Sample No. | WG-7160-1P | | 06787 | | 06788 | | 06789 | | 06790 | | 06791 | | 06792 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | D | |
| Sample Volume (L) | 0 | | 6780 | | 7410 | | 7455 | | 7500 | | 7163 | | 7065 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ | $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of MoCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of DiCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of TrCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of TeCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of PeCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of HxCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of HpCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of OcCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Sum of NoCBs | U | 10.0 | U | 1.47 | U | 1.35 | U | 1.34 | U | 1.33 | U | 1.40 | U | 1.42 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/14/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/25/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/14/02**

| Sample No. | 06793 | | 06794 | | 06795 | | 06796 | | 06797 | | 06798 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7620 | | 7620 | | 7005 | | 5775 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.31 | U | 1.31 | U | 1.43 | U | 1.73 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/14/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/12/02**

| Sample No. | WG-7157-1P | | 06775 | | 06776 | | 06777 | | 06778 | | 06779 | | 06780 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | D | | D | |
| Sample Volume (L) | 0 | | 7500 | | 6675 | | 6244.88 | | 7537.25 | | 7119.5 | | 6660 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DcCB | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of MoCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of DiCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of TrCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of TeCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of PeCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of HxCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of HpCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of OcCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Sum of NoCBs | U | 10.0 | U | 1.33 | U | 1.50 | U | 1.60 | U | 1.33 | U | 1.40 | U | 1.50 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/12/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit
NA: denotes not analyzed

ERT: 3/25/02

3-12-02PCBair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/12/02**

| Sample No. | 06781 | | 06782 [1] | | 06783 | | 06784 | | 06785 | | 06786 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6670 | | 7830 | | 7755 | | 7571.38 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.50 | NA | NA | U | 1.29 | U | 1.32 | U | 10.0 | U | 10.0 |
| Total | 0 | | NA | | 0 | | 0 | | 0 | | 0 | |

COC# 03/12/02-Dioxin

[1] Lab received no PUF in the sample jar.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 27, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 1053 | 08:47 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 8.7 | 66.8 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 994 | 08:17 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 7.3 | 21.7 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 1033 | 08:37 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 10.9 | 246.6 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 985 | 08:13 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 7.6 | 22.4 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | 2621 | 1 | 2953 | 08:13 | 10 | 00:00:10 | 1 | 0.0 | 0.1 | 8.1 | 109.4 |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday-Monday, March 29-April 1, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on April 1**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA sampled for asbestos at two Lower Manhattan locations on March 15. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,253, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Dust Sampling for Asbestos** - A total of 8 samples were collected from beams, metal debris and pipe insulation at both the North and South Tower excavation areas, and from an ongoing asbestos abatement area within ground zero on March 26. Two of the samples showed asbestos levels at greater than 1%.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 68 samples were collected on March 17, 19, 22 and 23. Samples taken on March 23 at a Wash Tent (Location W-12A) and at the eastern perimeter of the landfill (Location P-2), showed 125.98 and 170.6 structures per square millimeter, respectively, both of which exceed the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**Dust Sampling for Asbestos** - A total of 6 samples were collected from the landfill sift and barge unloading areas on March 19. Asbestos in all samples was either not detected, or was less than 1%.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on March 15 at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, April 1, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 17, 0708 - 2024 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Locations O-18) was not analyzed due to a wet/damaged filter.

Fresh Kills (Mar 19, 0757 - 2125 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-6) was not collected due to an equipment malfunction.
1 sample (Location P-8) was not analyzed due to overloading of particulates.

Fresh Kills (Mar 22, 0715 - 2054 hrs)

All 15 samples analyzed were below the TEM AHERA standard.
2 samples (Locations P-4 and P-6) were not collected due to equipment malfunctions.
1 sample (Location O-17) was not collected.

Fresh Kills (Mar 23, 0705 - 2045 hrs)

2 of 18 samples analyzed were above the TEM AHERA standard.
**Exceedances of the TEM AHERA standard occurred at Location P-2 (170.6 S/mm$^2$) and Location W-12A (125.98 S/mm$^2$).**

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 15) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

Bulk Sampling

Fresh Kills (Mar 19) - Asbestos

6 bulk samples collected from the landfill sift and active bank areas, and the barge unloading areas.
Asbestos was either not detected or at less than 1% amosite in all of the samples.

NYC / ER (Mar 26) - Asbestos

8 bulk samples collected from both tower locations from beams (3), metal debris (2), pipe insulation (1), and from an ongoing asbestos abatement area within Ground Zero (2).
Asbestos was detected in 2 of the 8 samples (as described below) at greater than 1% chrysotile or 1% amosite.
**1 sample within the asbestos abatement area identified amosite at 66.70%.**
**1 sample outside the asbestos abatement area identified amosite at 1.70% and chrysotile at less than 1%.**
The abatement area consists of a bunch of transite piping identified southwest of the North Tower.

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/17/02 0708 to 2024**

**Data Validation Date: 03/20/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/17/02 | LF03491 | P-1 | 1132.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/17/02 | LF03492 | P-2 | 941.85 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 03/17/02 | LF03493 | P-3 | 1197.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/17/02 | LF03494 | P-4 | 1060.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/17/02 | LF03495 | P-5 | 1151.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/17/02 | LF03496 | P-6 | 1115.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/17/02 | LF03497 | P-7 | 1200.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/17/02 | LF03498 | P-8 | 1103.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/17/02 | LF03499 | W-12A | 1343.30 | Air | 59.87 | 0.017 | 0 | 0 | <15.75 | <0.0045 |
| 03/17/02 | LF03500 | W-12B | 1031.55 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/17/02 | LF03501 | B-13 | 1051.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/17/02 | LF03502 | B-14 | 1119.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/17/02 | LF03503 | T-15 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/17/02 | LF03504 | T-16 | 1146.60 | Air | 10.19 | 0.003 | 0 | 0 | <13.12 | <0.0044 |
| 03/17/02 | LF03505 | O-17 | 1148.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/17/02 | LF03506 | O-18 | 1174.20 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/17/02 | LF03507 | O-19 | 1033.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/17/02 | LF03508 | MPHS-20 | 1193.50 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/17/02 | LF03509 | B-13 Dup | 1236.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/17/02 | LF03510 | Lot Blank | 0.00 | Air | NA$^{(3)}$ | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 03/17/02 | LF03511 | Trip Blank | 0.00 | Air | NA$^{(3)}$ | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA $^{(1)}$ - Not analyzed due to overloading of particulates
NA $^{(2)}$ - Not analyzed for TEM
NA $^{(3)}$ - Not analyzed due to damaged/wet filter
R- Sample rejected due to insufficient material
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-17-02 rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/19/02 0757 to 2125**

**Data Validation Date: 03/24/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/19/02 | LF03533 | P-1 | 964.25 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 03/19/02 | LF03534 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/19/02 | LF03535 | P-3 | 1236.90 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/19/02 | LF03536 | P-4 | 1224.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/19/02 | LF03537 | P-5 | 1048.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/19/02 | LF03539 | P-7 | 1079.75 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/19/02 | LF03540 | P-8 | 1163.75 | Air | NA (1) | NA (1) | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 03/19/02 | LF03541 | W-12A | 960.00 | Air | 38.22 | 0.015 | ****5 | 0 | 56.24 | 0.0226 |
| 03/19/02 | LF03542 | W-12B | 1021.80 | Air | <7.0 | <0.003 | 0 | ***1 | 13.12 | 0.0049 |
| 03/19/02 | LF03543 | B-13 | 1186.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/19/02 | LF03544 | B-14 | 1057.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/19/02 | LF03545 | T-15 | 1296.00 | Air | 30.57 | 0.009 | 0 | 0 | <15.75 | <0.0047 |
| 03/19/02 | LF03546 | T-16 | 1224.00 | Air | 42.04 | 0.013 | ***1 | ***1 | 31.5 | 0.0099 |
| 03/19/02 | LF03547 | O-17 | 909.15 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 03/19/02 | LF03548 | O-18 | 990.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/19/02 | LF03549 | O-19 | 1030.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/19/02 | LF03550 | MPHS-20 | 1222.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/19/02 | LF03551 | P-4 Dup | 1210.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/19/02 | LF03552 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |
| 03/19/02 | LF03553 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ | NA$^{(2)}$ |

*No Sample submitted for LF03538, Location P-6 due to pump fault*

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA $^{(1)}$ - Not analyzed due to overloading of particulates
NA $^{(2)}$ - Not analyzed for TEM
NA $^{(3)}$ - Not analyzed due to damaged/wet filter
R- Sample rejected due to insufficient material
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-19-02 rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/22/02 0715 to 2054**

**Data Validation Date: 03/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/22/02 | LF03594 | P-1 | 1065.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/22/02 | LF03595 | P-2 | 1168.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/22/02 | LF03596 | P-3 | 1155.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/22/02 | LF03597 | P-5 | 1026.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/22/02 | LF03599 | P-7 | 1251.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 03/22/02 | LF03600 | P-8 | 1157.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/22/02 | LF03601 | W-12A | 1179.00 | Air | <7.0 | <0.002 | ***2 | 0 | 26.25 | 0.0086 |
| 03/22/02 | LF03602 | W-12B | 1049.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/22/02 | LF03603 | B-13 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/22/02 | LF03604 | B-14 | 1103.90 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/22/02 | LF03605 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/22/02 | LF03606 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/22/02 | LF03607 | O-18 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/22/02 | LF03608 | O-19 | 1153.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/22/02 | LF03609 | MPHS-20 | 1134.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/22/02 | LF03610 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/22/02 | LF03611 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample Submitted for Locations P-4 and P-6 due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/23/02 0705 to 2045**

**Data Validation Date: 03/28/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/23/02 | LF03612 | P-1 | 1237.65 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/23/02 | LF03613 | P-2 | 1200.65 | Air | 8.92 | 0.003 | ***9 | ***4 | 170.6 | 0.0547 |
| 03/23/02 | LF03614 | P-3 | 1191.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/23/02 | LF03615 | P-4 | 1046.90 | Air | <7.0 | <0.003 | 0 | ***1 | 13.12 | 0.0048 |
| 03/23/02 | LF03616 | P-5 | 1265.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/23/02 | LF03617 | P-6 | 1092.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0046 |
| 03/23/02 | LF03618 | P-7 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/23/02 | LF03619 | P-8 | 1256.15 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/23/02 | LF03620 | W-12A | 1296.85 | Air | <7.0 | <0.002 | ***7 | ***1 | 125.98 | 0.0374 |
| 03/23/02 | LF03621 | W-12B | 1212.20 | Air | <7.0 | <0.002 | ***3 | 0 | 39.37 | 0.0125 |
| 03/23/02 | LF03622 | B-13 | 1206.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/23/02 | LF03623 | B-14 | 1404.00 | Air | <7.0 | <0.002 | ***1 | ***1 | 31.5 | 0.0086 |
| 03/23/02 | LF03624 | T-15 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/23/02 | LF03625 | T-16 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/23/02 | LF03626 | O-17 | 1126.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/23/02 | LF03627 | O-18 | 1148.55 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/23/02 | LF03628 | O-19 | 1184.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/23/02 | LF03629 | MPHS-20 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/23/02 | LF03630 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/23/02 | LF03631 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/19/02**
**Sampling Date and Time: 3/15/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/15/02 | 7093-18-0169 | Park Row | 1298 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/15/02 | 7093-19-0169 | Chambers Street | 1264 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | 7093-15-0167 | I.S. 143 Manhattan | 1422 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | 7094-09-0157 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | 7096-12-0163 | P.S. 199 (Queens) | 1248 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/15/02 | 7095-98-0163 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/15/02 | 7097-18-0160 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** **3/19/02**

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/19/02 | 06010 | B-13 | Soil | <1% Amosite | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |
| 03/19/02 | 06011 | B-13 | Soil | None | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |
| 03/19/02 | 06012 | B-14 | Soil | None | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |
| 03/19/02 | 06013 | B-14 | Soil | None | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |
| 03/19/02 | 06014 | LF-Sifter # 2 | Soil | None | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |
| 03/19/02 | 06015 | South Active Bank | Soil | None | 10% Cellulose | 80% Other |
| | | | | | 10% Fiber Glass | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

Bulk3-19-02.xls

**NYC Response**
**Asbestos Bulk Sampling Results for WTC NYC**
**Sampling Date : 3/26/02**

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/26/02 | Bulk -00040 | North Tower | Soil | <1% Chrysotile | 10.0% Glass<br>25.0% Cellulose | 30.00% Quartz<br>15.00% Other<br>20.00% CA Carbonite |
| 03/26/02 | Bulk -00041 | North Tower | Soil | <1% Chrysotile | 10.0% Glass<br>35.0% Cellulose | 25.00% Non-Fibrous(Other)<br>30.00% CA Carbonite |
| 03/26/02 | Bulk -00042 | South Tower | Soil | None | 70% Glass<br>5.0% Cellulose | 25.00% Non-Fibrous(Other) |
| 03/26/02 | Bulk -00043 | South Tower | Soil | None | 60.0% Glass<br>15.0% Cellulose | 25.00% Non-Fibrous(Other) |
| 03/26/02 | Bulk -00044 | South Tower | Soil | <1% Chrysotile | 10.0% Glass<br>20.0% Cellulose | 40.00% Quartz<br>30.00% Non Fibrous (Other) |
| 03/26/02 | Bulk -00045 | South Tower | Soil | None | 20.0% Glass<br>15.0% Cellulose | 20.00% Non-Fibrous<br>45.00% CA Carbonite |
| 03/26/02 | Bulk -00046 | South Tower | Soil | <1% Chrysotile<br>1.70% Amosite | 10.0% Glass<br>30.0% Cellulose | 28.3% Non-Fibrous<br>30.00% CA Carbonite |
| 03/26/02 | Bulk -00047 | South Tower | Soil | 66.70% Amosite | 10.0% Cellulose | 23.30% Non-Fibrous (Other) |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

Bulk3-26-02.xls

**U.S. Environmental Protection Agency (EPA)**
**Daily Summary**
**Tuesday, April 2, 2002**

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on April 2**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 204 samples taken in and around ground zero from March 18 through March 24. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,457, with 18 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11 and March 9).

**Air Sampling for Isocyanates** - A total of 24 samples were collected on February 8 and February 12 at numerous locations in Lower Manhattan, including ground zero. Isocyanates were not detected.

**Air Sampling for Silicates** - A total of 20 samples were collected on February 14 and February 19 at several locations in Lower Manhattan. Silicates were not detected.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 18 samples were collected on March 25. All samples were below the AHERA school re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, April 2, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 18, 1200 hrs - Mar 19, 0255 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 19, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location F-duplicate) was not collected due to an equipment malfunction.

NYC / ER (Mar 19, 1200 hrs - Mar 20, 0200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 20, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 20, 1200 - 2400 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations U and Q) were not collected due to equipment malfunctions.

NYC / ER (Mar 21, 0001 - 1200 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations C and D) were not collected due to equipment malfunctions.

NYC / ER (Mar 21, 1200 - 2400 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations B and E) were not collected due to equipment malfunctions.

NYC / ER (Mar 22, 0001 - 1200 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Locations D and F) were not collected due to equipment malfunctions.

NYC / ER (Mar 22, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 23, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 23, 1200 - 2400 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location Q) was not collected due to an equipment malfunction.
1 sample (Location L) was not collected since the sample cassette was stolen.

NYC / ER (Mar 24, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-duplicate) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Mar 25, 0729 - 2215 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location B-13) was not collected due to an equipment malfunction.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Feb 8) - Isocyanates

12 samples (total) collected from the following locations: North Tower (west side), Vista Hotel, and Locations A, B, C, D, E, P, R, S, 3A from the fixed ambient air sampling stations.
Sampling period consisted of a 30-minute grab at each location.
All 12 samples did not detect any isocyanates.

NYC / ER (Feb 12) - Isocyanates

12 samples (total) collected from the following locations: North Tower (west side), Vista Hotel, and Locations A, B, C, D, E, P, R, S, 3A from the fixed ambient air sampling stations.
Sampling period consisted of a 30-minute grab at each location.
All 12 samples did not detect any isocyanates.

NYC / ER (Feb 14) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Feb 19) - Silicates

All 10 samples analyzed did not detect any silicates.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/20/02**
**Sampling Date and Time:** 3/18/02 1200 to 3/19/2002 0255

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/18/02 | TTW-01634 | W | 1476 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0042 |
| 03/18/02 | TTW-01635 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01636 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01637 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01638 | U | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01639 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01640 | K | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/18/02 | TTW-01641 | K-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01642 | D | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/18/02 | TTW-01643 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01644 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01645 | A | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/18/02 | TTW-01646 | A-Dup | 1692 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0046 |
| 03/18/02 | TTW-01647 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01648 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01649 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | TTW-01650 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/18/02 | TTW-01651 | L | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

*Due to a pump malfunction , TTW-01635 was restarted at 1455*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/25/2002**
**Sampling Date and Time:** **3/19/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/19/02 | FB031902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/19/02 | TB031902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/19/02 | TTW-01652 | W | 1440 | Air | 8.28 | 0.002 | ***2 | 0 | 32 | 0.0086 |
| 03/19/02 | TTW-01653 | Q | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/19/02 | TTW-01654 | E | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/19/02 | TTW-01655 | S | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01656 | U | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01657 | V | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01658 | K | 1440 | Air | 12.74 | 0.003 | ***1 | 0 | 16 | 0.0043 |
| 03/19/02 | TTW-01659 | D | 1512 | Air | 10.19 | 0.003 | *******1 | 0 | 16 | 0.0041 |
| 03/19/02 | TTW-01660 | C | 1584 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0039 |
| 03/19/02 | TTW-01661 | B | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01662 | A | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01663 | F | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01664 | J | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01665 | J-Dup | 1330.45 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0046 |
| 03/19/02 | TTW-01666 | N | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01667 | M1 | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01668 | L | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |

*No Sample Submitted for Location F-Dup due to pump malfunction*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
******Tremolite

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-19-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/24/02**
**Sampling Date and Time:** **3/19/02 1200 to 3/20/02 0200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 03/19/02 | TTW-01669 | W | 1440 | Air | 8.28 | 0.002 | 0 | ***1 | 16 | 0.0043 |
| 03/19/02 | TTW-01670 | Q | 1440 | Air | 8.92 | 0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/19/02 | TTW-01671 | E | 1368 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/19/02 | TTW-01672 | E-Dup | 1260 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0049 |
| 03/19/02 | TTW-01673 | S | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01674 | U | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01675 | V | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/19/02 | TTW-01676 | K | 1440 | Air | 9.55 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01677 | D | 1476 | Air | 19.11 | 0.005 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01678 | D-Dup | 1656 | Air | 16.56 | 0.004 | 0 | 0 | <16 | <0.0037 |
| 03/19/02 | TTW-01679 | C | 1440 | Air | 12.1 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01680 | B | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01681 | A | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01682 | F | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01683 | J | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01684 | N | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/19/02 | TTW-01685 | M1 | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/19/02 | TTW-01686 | L | 1656 | Air | <7 | <0.002 | 0 | 0 | <20 | <0.0046 |

*Due to pump malfunction, Location D-Dup was restarted at 1400.*

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FL-03-19-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/25/2002**
**Sampling Date and Time:** 3/20/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S–f/cc** |
| 03/20/02 | FB032002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/20/02 | TB032002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/20/02 | TTW-01687 | W | 1440 | Air | 12.74 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01688 | Q | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01689 | E | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01690 | S | 966 | Air | <7 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 03/20/02 | TTW-01691 | U | 1078.3 | Air | <7 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/20/02 | TTW-01692 | V | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01693 | K | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01694 | D | 1440 | Air | 25.48 | 0.007 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01695 | C | 1548 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0040 |
| 03/20/02 | TTW-01696 | C-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01697 | B | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01698 | B-Dup | 1242.15 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0050 |
| 03/20/02 | TTW-01699 | A | 1080 | Air | <7 | <0.002 | 0 | 0 | <13.33 | <0.0048 |
| 03/20/02 | TTW-01700 | F | 1368 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/20/02 | TTW-01701 | J | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01702 | N | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01703 | M1 | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01704 | L | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
******Tremolite

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-20-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/24/02**
**Sampling Date and Time:** 3/20/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/20/02 | TTW-01705 | W | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01706 | E | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01707 | S | 440.8 | Air | <7 | <0.006 | 0 | 0 | <16 | <0.0140 |
| 03/20/02 | TTW-01708 | S-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01709 | V | 1368 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/20/02 | TTW-01710 | K | 1404 | Air | 8.28 | 0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01711 | D | 1440 | Air | 15.29 | 0.004 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01712 | C | 475.6 | Air | <7 | <0.006 | 0 | 0 | <8 | <0.0065 |
| 03/20/02 | TTW-01713 | B | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01714 | A | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01715 | A-Dup | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/20/02 | TTW-01716 | F | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01717 | J | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/20/02 | TTW-01718 | N | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01719 | M1 | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/20/02 | TTW-01720 | L | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |

*No Sample submitted for Location Q and U due to flow fault*

**Sampling Locations:**
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G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/25/2002**
**Sampling Date and Time:** 3/21/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 03/21/02 | FB032102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/21/02 | TB032102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/21/02 | TTW-01721 | W | 1476 | Air | 7.64 | 0.002 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01722 | Q | 1368 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/21/02 | TTW-01723 | E | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01724 | E-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01725 | S | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01726 | U | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01727 | V | 1476 | Air | 14.01 | 0.004 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01728 | K | 1404 | Air | 13.38 | 0.004 | 0 | 0 | <16 | <0.0044 |
| 03/21/02 | TTW-01729 | D-Dup | 1332 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0046 |
| 03/21/02 | TTW-01730 | B | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01731 | A | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01732 | F | 1152 | Air | <7 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/21/02 | TTW-01733 | J | 1512 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0041 |
| 03/21/02 | TTW-01734 | N | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01735 | M1 | 1476 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/21/02 | TTW-01736 | L | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |

*No Sample Submitted for Location D and C due to pump malfunction*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C1: SW corner of Broadway & Liberty St.
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R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/25/02**
**Sampling Date and Time:** **3/21/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/21/02 | TTW-01737 | W | 1476 | Air | 21.66 | 0.006 | ***1 | 0 | 16 | 0.0042 |
| 03/21/02 | TTW-01738 | Q | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01739 | S | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01740 | U | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01741 | V | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/21/02 | TTW-01742 | K | 1404 | Air | 7.01 | 0.002 | 0 | 0 | <16 | <0.0044 |
| 03/21/02 | TTW-01743 | D | 1440 | Air | 12.1 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01744 | C | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01745 | A | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01746 | F | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01747 | F-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01748 | J-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01749 | J | 1440 | Air | <7 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/21/02 | TTW-01750 | N | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01751 | M1 | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/21/02 | TTW-01752 | L | 1440 | Air | <7 | <0.002 | ***1 | 0 | 16 | 0.0043 |

*No Sample submitted for Location E due to pump frozen*
*No Sample Submitted for Location B due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/25/2002**
**Sampling Date and Time:** 3/22/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/22/02 | FB032202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/22/02 | TB032202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/22/02 | TTW-01755 | Q | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01756 | Q-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01757 | W | 1440 | Air | 12.74 | 0.003 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01758 | E | 1404 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/22/02 | TTW-01759 | S | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01760 | U | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01761 | V | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01762 | K | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01763 | K-Dup | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01764 | C | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01765 | B | 1368 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/22/02 | TTW-01766 | A | 1214.85 | Air | 7.64 | 0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/22/02 | TTW-01767 | J | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01768 | N | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/22/02 | TTW-01769 | M1 | 1374 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/22/02 | TTW-01770 | L | 1440 | Air | <7 | <0.002 | 0 | 0 | <16 | <0.0043 |

*No Sample Submitted for Location D and F due to pump malfunction*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted
******Tremolite

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/28/02**
**Sampling Date and Time:** 3/22/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/22/02 | TTW-01773 | W | 1440 | Air | 33.12 | 0.009 | ***2 | ***1 | 48 | 0.0128 |
| 03/22/02 | TTW-01774 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01775 | Q-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01776 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01777 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01778 | U | 1330 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/22/02 | TTW-01779 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01780 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01781 | D | 1440 | Air | <7.0 | <0.002 | *****1 | 0 | 16 | 0.0043 |
| 03/22/02 | TTW-01782 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01783 | B | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/22/02 | TTW-01784 | A | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/22/02 | TTW-01785 | F | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/22/02 | TTW-01786 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01787 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01788 | N-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01789 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | TTW-01790 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
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H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
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R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
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W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/28/2002**
**Sampling Date and Time:** 3/23/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/23/02 | FB032302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/23/02 | TB032302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/23/02 | TTW-01791 | W | 1440 | Air | 20.38 | 0.005 | ***1 | 0 | 16 | 0.0043 |
| 03/23/02 | TTW-01792 | Q | 1440 | Air | <7.0 | <0.002 | 0 | ***1 | 16 | 0.0043 |
| 03/23/02 | TTW-01793 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01794 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/23/02 | TTW-01795 | U | 1365 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/23/02 | TTW-01796 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01797 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01798 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/23/02 | TTW-01799 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01800 | B | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01801 | A | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/23/02 | TTW-01802 | F | 1232 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/23/02 | TTW-01803 | J | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/23/02 | TTW-01804 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01805 | N-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/23/02 | TTW-01806 | M1 | 1368 | Air | <7.0 | <0.002 | 0 | ***2 | 32 | 0.0090 |
| 03/23/02 | TTW-01807 | M1-Dup | 1230 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/23/02 | TTW-01808 | L | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Sampling Locations:**
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V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-23-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/28/02**
**Sampling Date and Time:** **3/23/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/23/02 | TTW-01809 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01811 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01812 | E-Dup | 1728 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0045 |
| 03/23/02 | TTW-01813 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01814 | U | 1368 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/23/02 | TTW-01815 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01816 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01817 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01818 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01819 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01820 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01821 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | TTW-01822 | J | 1140 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/23/02 | TTW-01823 | N | 1029 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 03/23/02 | TTW-01824 | M1 | 1620 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0038 |
| 03/23/02 | TTW-01826 | L-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample submitted for Location Q and L due to pump fault and stolen sample cassette*

**Sampling Locations:**
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**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/28/2002**
**Sampling Date and Time:** 3/24/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/24/02 | FB032402 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/24/02 | TB032402 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/24/02 | TTW-01827 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01828 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/24/02 | TTW-01829 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01830 | S | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/24/02 | TTW-01831 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01832 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01833 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01834 | K-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01835 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01836 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01837 | B | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/24/02 | TTW-01839 | A | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/24/02 | TTW-01840 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01841 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01842 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/24/02 | TTW-01843 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01844 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample submitte for B-Dup due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/25/02 0729 to 2215

**Data Validation Date: 03/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/25/02 | LF03653 | P-1 | 1112.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/25/02 | LF03654 | P-2 | 1017.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 03/25/02 | LF03655 | P-3 | 1243.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/25/02 | LF03656 | P-4 | 676.80 | Air | <7.0 | <0.004 | 0 | 0 | <8.75 | <0.0050 |
| 03/25/02 | LF03657 | P-5 | 1204.35 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/25/02 | LF03658 | P-6 | 1015.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 03/25/02 | LF03659 | P-7 | 1382.40 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0044 |
| 03/25/02 | LF03660 | P-8 | 1253.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0048 |
| 03/25/02 | LF03661 | W-12A | 1146.60 | Air | 45.86 | 0.015 | ***1 | 0 | 13.12 | 0.0044 |
| 03/25/02 | LF03662 | W-12B | 1197.00 | Air | 7.64 | 0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/25/02 | LF03664 | B-14 | 1215.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/25/02 | LF03665 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/25/02 | LF03666 | T-16 | 1296.00 | Air | 11.46 | 0.003 | ***1 | 0 | 15.75 | 0.0047 |
| 03/25/02 | LF03667 | O-17 | 1035.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/25/02 | LF03668 | O-18 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/25/02 | LF03669 | O-19 | 1249.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/25/02 | LF03670 | MPHS-20 | 1254.75 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/25/02 | LF03671 | P-8 Dup | 1233.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/25/02 | LF03672 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/25/02 | LF03673 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No sample submitted for LF03663, Location B-13 due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-25-02.xls

**WTC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 2/08/02**

| Sample No. | Method Blank | | 122186 | | | | 122529 | | | | 122532 | | | | 122535 | | | | 122540 | | | | 122542 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Lab | | P | | | | C | | | | B | | | | R | | | | Vista Hotel | | | | A | | | |
| Sample Volume (L) | 0 | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ | µg | µg | mg/m³ | mg/m³ |
| MDI Monomer | U | 0.040 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 |
| HDI Monomer | U | 0.030 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 |
| HMDI Monomer | U | 0.040 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 |
| IPDI Monomer | U | 0.15 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 |

COC# 020802-Isocyanate

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/26/02

**WTC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 2/08/02**

| Sample No. | 122543 | | | | 122544 | | | | 122547 | | | | 122550 | | | | 122557 | | | | 122562 | | | | 12252 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | R | | | | 3A | | | | North tower-west side | | | | E | | | | D | | | | S | | | | Field Blank | |
| Sample Volume (L) | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 0 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg |
| MDI Monomer | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| HDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| HMDI Monomer | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 |
| IPDI Monomer | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 |

COC# 02/08/02-Isocyanate

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**WTC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 2/12/02**

| Sample No. | Method Blank | | 122530 | | | 122534 | | | 122536 | | | 12253B | | | 122539 | | | 122548 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Lab | | Vista Hotel | | | North tower-west side | | | D | | | A | | | E | | | B | | |
| Sample Volume (L) | 0 | | 60 | | | 60 | | | 60 | | | 60 | | | 60 | | | 60 | | |
| Analyte | Result | MDL | Result | MDL | MDL | Result | MDL | MDL | Result | MDL | MDL | Result | MDL | MDL | Result | MDL | MDL | Result | MDL | MDL |
| | µg | µg | µg | µg | mg/m³ | µg | µg | mg/m³ | µg | µg | mg/m³ | µg | µg | mg/m³ | µg | µg | mg/m³ | µg | µg | mg/m³ |
| MDI Monomer | U | 0.040 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 |
| HDI Monomer | U | 0.030 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 | U | 0.030 | 0.00050 |
| HMDI Monomer | U | 0.040 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 | U | 0.040 | 0.00067 |
| IPDI Monomer | U | 0.15 | U | 0.15 | 0.0025 | U | 0.15 | 0.0025 | U | 0.15 | 0.0025 | U | 0.15 | 0.0025 | U | 0.15 | 0.0025 | U | 0.15 | 0.0025 |

COC# 02/12/02-Isocyanate

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 3/26/02

**WTC Emergency Response**
**Air Samples - Isocyanate Results-Total of Front and Back**
**Sampling Date 2/12/02**

| Sample No. | 122551 | | | | 122554 | | | | 122555 | | | | 122558 | | | | 122561 | | | | 122563 | | | | 122559 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | S | | | | P | | | | Vista Hotel | | | | 3A | | | | R | | | | C | | | | Field Blank |
| Sample Volume (L) | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 60 | | | | 0 |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg | mg/m3 | mg/m3 | µg | µg |
| MDI Monomer | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 |
| 2,4-TDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| 2,6-TDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| HDI Monomer | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 | U | 0.00050 | U | 0.030 |
| HMDI Monomer | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 | U | 0.00067 | U | 0.040 |
| IPDI Monomer | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 | U | 0.0025 | U | 0.15 |

COC# 02/12/02-Isocyanate

Note: No MDI and HDI Oligomers were observed during the review of the chromatographs by the analyst.

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, April 3, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on April 3**

Lower Manhattan:

**Air Sampling for Particulates** - EPA collected samples from March 27 through March 30, and on April 1, at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Metals** - A total of 9 samples were collected on January 31 at various locations in Lower Manhattan. All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Air Sampling for PAH's** - A total of 30 samples were collected on March 12, 14 and 19 at several locations in Lower Manhattan. PAH's were not detected.

**Air Sampling for Silicates** - A total of 20 samples were collected on March 14 and March 19 at several locations in Lower Manhattan. Silicates were not detected.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted from March 27 through April 3 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOCs where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from March 27 through April 3 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 31 samples were collected on March 26 and March 27. All samples showed results less than 70 structures per square millimeter, which is the Asbestos

Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on March 28, March 29, April 1 and April 2.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, April 3, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Mar 26, 0750 - 2249 hrs)

All 13 samples analyzed were below the TEM AHERA standard.
6 samples (Locations P-2, P-3, P-4, P-5, O-18, and O-19) were not analyzed due to wet filters.

Fresh Kills (Mar 27, 0745 - 2342 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location P-2) was not analyzed due to an equipment malfunction.

Fresh Kills (Mar 28) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Mar 29) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-5, and P-6) based on daily average concentrations.
Particulate monitoring was not conducted at Location P-8 due to an equipment malfunction.

Fresh Kills (Mar 30) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted due to weather conditions.

Fresh Kills (Mar 31) - Particulate Monitoring (Dataram)

Particulate monitoring was not conducted.

Fresh Kills (Apr 1) - Particulate Monitoring (Dataram)

Nothing of significance reported at three stations (P-2, P-3 and P-8) based on daily average concentrations.
Particulate monitoring was not conducted at Locations P-5 and P-6 due to equipment malfunctions.

Fresh Kills (Apr 2) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-5, and P-8) based on daily average concentrations.
Particulate monitoring was not conducted at Location P-6 due to an equipment malfunction.

Ambient Air Sampling Locations

NYC / ER (March 5) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (March 7) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (March 12) - Dioxin

All 9 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
1 sample (Location B) was not submitted for analysis.
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (March 14) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
**Note**: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 31) - Metals

9 samples collected.
1 sample (Location C) was not collected due to damaged sampling equipment.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

NYC / ER (Mar 12) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 14) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 19) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 14) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Mar 19) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 27) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 11.41 $ug/m^3$ with a maximum reading of 41.72 $ug/m^3$.
Station N had an average of 10.67 $ug/m^3$ with a maximum reading of 55.62 $ug/m^3$.
Station R had an average of 14.09 $ug/m^3$ with a maximum reading of 65.21 $ug/m^3$.

NYC / ER (Mar 28) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 17.14 $ug/m^3$ with a maximum reading of 46.28 $ug/m^3$.
Station N had an average of 12.58 $ug/m^3$ with a maximum reading of 51.57 $ug/m^3$.

Station R had an average of 19.24 ug/$m^3$ with a maximum reading of 52.19 ug/$m^3$.

NYC / ER (Mar 29) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 41.54 ug/$m^3$ with a maximum reading of 102.01 ug/$m^3$.
Station N had an average of 33.63 ug/$m^3$ with a maximum reading of 281.13 ug/$m^3$.
Station R had an average of 34.29 ug/$m^3$ with a maximum reading of 64.63 ug/$m^3$.

NYC / ER (Mar 30) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 7 hours.
Station L had an average of 64.46 ug/$m^3$ with a maximum reading of 163.06 ug/$m^3$.
Station N had an average of 57.38 ug/$m^3$ with a maximum reading of 227.42 ug/$m^3$.
Station R had an average of 59.62 ug/$m^3$ with a maximum reading of 94.72 ug/$m^3$.

NYC / ER (Mar 31) - Particulate Monitoring (Dataram)

Particulate measurements were not conducted at Locations L, N, and R due to the weather conditions.

NYC / ER (Apr 1) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated nearly 8 hours.
Station L had an average of 21.08 ug/$m^3$ with a maximum reading of 58.31 ug/$m^3$.
Station N had an average of 18.64 ug/$m^3$ with a maximum reading of 60.28 ug/$m^3$.
Station R had an average of 18.85 ug/$m^3$ with a maximum reading of 77.25 ug/$m^3$.

NYC / ER (Mar 27) - Volatile Organics (Mobile Laboratory)

Aside from a few compounds detected at one location (South Tower), no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 28) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 29) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 30) - Volatile Organics (Mobile Laboratory)

Aside from two compounds detected at the North and South Tower locations, no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Mar 31) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 1) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at the North Tower location, no other volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 2) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 3) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at the North Tower location, no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/26/02 0750 to 2249

**Data Validation Date: 03/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/26/02 | LF03674 | P-1 | 1092.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/26/02 | LF03675 | P-2 | 648.00 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03676 | P-3 | 1296.00 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03677 | P-4 | 1103.40 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03678 | P-5 | 1171.80 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03679 | P-6 | 423.90 | Air | <7.0 | <0.006 | 0 | 0 | <7.87 | <0.0072 |
| 03/26/02 | LF03680 | P-7 | 1089.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 03/26/02 | LF03681 | P-8 | 1306.80 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/26/02 | LF03682 | W-12A | 1128.60 | Air | 7.64 | 0.003 | ***4 | ***1 | 65.62 | 0.0224 |
| 03/26/02 | LF03683 | W-12B | 1219.15 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/26/02 | LF03684 | B-13 | 1063.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/26/02 | LF03685 | B-14 | 583.20 | Air | <7.0 | <0.005 | 0 | 0 | <7.87 | <0.0052 |
| 03/26/02 | LF03686 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/26/02 | LF03687 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/26/02 | LF03688 | O-17 | 939.75 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0048 |
| 03/26/02 | LF03689 | O-18 | 98.10 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03690 | O-19 | 486.00 | Air | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) | NA (3) |
| 03/26/02 | LF03691 | MPHS-20 | 1081.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0047 |
| 03/26/02 | LF03692 | P-4 Dup | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 03/26/02 | LF03693 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/26/02 | LF03694 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-26-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/27/02 0745 to 2342

**Data Validation Date: 03/30/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/27/02 | LF03695 | P-1 | 1202.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/27/02 | LF03697 | P-3 | 1215.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/27/02 | LF03698 | P-4 | 1184.40 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0043 |
| 03/27/02 | LF03699 | P-5 | 1171.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/27/02 | LF03700 | P-6 | 761.25 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0040 |
| 03/27/02 | LF03701 | P-7 | 1080.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0047 |
| 03/27/02 | LF03702 | P-8 | 1320.10 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/27/02 | LF03703 | W-12A | 1123.20 | Air | 8.92 | 0.003 | 0 | ***3 | 39.37 | 0.0135 |
| 03/27/02 | LF03704 | W-12B | 1191.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/27/02 | LF03705 | B-13 | 1081.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0047 |
| 03/27/02 | LF03706 | B-14 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/27/02 | LF03707 | T-15 | 1296.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0047 |
| 03/27/02 | LF03708 | T-16 | 1296.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/27/02 | LF03709 | O-17 | 1072.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/27/02 | LF03710 | O-18 | 1126.80 | Air | <7.0 | <0.002 | 0 | 0 | <1.21 | <0.0004 |
| 03/27/02 | LF03711 | O-19 | 993.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 03/27/02 | LF03712 | MPHS-20 | 1221.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/27/02 | LF03713 | P-1 Dup | 1193.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/27/02 | LF03714 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(3) | NA(2) | NA(2) | NA(2) |
| 03/27/02 | LF03715 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample was submitted for Location P-2, Sample # LF03696 due to pump fault*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-27-02.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/19/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06901 | | 06902 | | 06903 | | 06904 | | 06905 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location S | |
| Volume (L) | 914.3 | | 818 | | 912 | | 872.95 | | 857.15 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.8 | U | 1.6 | U | 1.6 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.3 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.3 | U | 1.1 | U | 1.2 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.3 |
| Fluoranthene | U | 0.99 | U | 1.1 | U | 1.0 | U | 1.0 | U | 1.1 |
| Pyrene | U | 0.99 | U | 1.1 | U | 1.0 | U | 1.0 | U | 1.1 |
| Benzo[a]anthracene | U | 0.88 | U | 0.98 | U | 0.88 | U | 0.92 | U | 0.94 |
| Chrysene | U | 0.88 | U | 0.98 | U | 0.88 | U | 0.92 | U | 0.94 |
| Benzo[b]fluoranthene | U | 0.80 | U | 0.89 | U | 0.80 | U | 0.83 | U | 0.85 |
| Benzo[k]fluoranthene | U | 0.80 | U | 0.89 | U | 0.80 | U | 0.83 | U | 0.85 |
| Benzo[e]pyrene | U | 0.80 | U | 0.89 | U | 0.80 | U | 0.83 | U | 0.85 |
| Benzo[a]pyrene | U | 0.80 | U | 0.89 | U | 0.80 | U | 0.83 | U | 0.85 |
| Indeno(1,2,3-c,d)pyrene | U | 0.73 | U | 0.81 | U | 0.73 | U | 0.76 | U | 0.78 |
| Dibenzo[a,h]anthracene | U | 0.72 | U | 0.81 | U | 0.72 | U | 0.76 | U | 0.77 |
| Benzo[g,h,i]perylene | U | 0.73 | U | 0.81 | U | 0.73 | U | 0.76 | U | 0.78 |

COC: 03/19/02-PAHs ERT: 4/1/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-19-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/19/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06906 | | 06907 | | 06908 | | 06909 | | 06910 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| Volume (L) | 936 | | 830.3 | | 837.4 | | 944.05 | | 863.08 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.7 | U | 1.7 | U | 1.5 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.5 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.6 | U | 1.5 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.2 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.2 | U | 1.2 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 0.97 | U | 1.1 | U | 1.1 | U | 0.96 | U | 1.1 |
| Pyrene | U | 0.97 | U | 1.1 | U | 1.1 | U | 0.96 | U | 1.1 |
| Benzo[a]anthracene | U | 0.86 | U | 0.97 | U | 0.96 | U | 0.85 | U | 0.93 |
| Chrysene | U | 0.86 | U | 0.97 | U | 0.96 | U | 0.85 | U | 0.93 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.88 | U | 0.87 | U | 0.77 | U | 0.84 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.88 | U | 0.87 | U | 0.77 | U | 0.84 |
| Benzo[e]pyrene | U | 0.78 | U | 0.88 | U | 0.87 | U | 0.77 | U | 0.84 |
| Benzo[a]pyrene | U | 0.78 | U | 0.88 | U | 0.87 | U | 0.77 | U | 0.84 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.80 | U | 0.79 | U | 0.70 | U | 0.77 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.79 | U | 0.79 | U | 0.70 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.80 | U | 0.79 | U | 0.70 | U | 0.77 |

COC: 03/19/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-19-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/19/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06911 | | 06912 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/19/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-19-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/12/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06877 | | 06878 | | 06879 | | 06880 | | 06881 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 845.08 | | 808.2 | | 894.68 | | 908.7 | | 942.08 | |
| Compound Name | Conc | MDL | Conc | MDL | Conc | MDL | Conc | MDL | Conc | MDL |
| | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Naphthalene | U | 1.7 | U | 1.8 | U | 1.6 | U | 1.6 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.5 | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.5 | U | 1.6 | U | 1.4 | U | 1.4 | U | 1.4 |
| Biphenyl | U | 1.4 | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.2 |
| Acenaphthylene | U | 1.4 | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| Acenaphthene | U | 1.4 | U | 1.5 | U | 1.3 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.3 | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.3 | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.1 |
| Anthracene | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.1 |
| Carbazole | U | 1.3 | U | 1.4 | U | 1.2 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.0 | U | 0.96 |
| Pyrene | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.0 | U | 0.96 |
| Benzo[a]anthracene | U | 0.95 | U | 1.0 | U | 0.90 | U | 0.89 | U | 0.85 |
| Chrysene | U | 0.95 | U | 1.0 | U | 0.90 | U | 0.89 | U | 0.85 |
| Benzo[b]fluoranthene | U | 0.86 | U | 0.90 | U | 0.81 | U | 0.80 | U | 0.77 |
| Benzo[k]fluoranthene | U | 0.86 | U | 0.90 | U | 0.81 | U | 0.80 | U | 0.77 |
| Benzo[e]pyrene | U | 0.86 | U | 0.90 | U | 0.81 | U | 0.80 | U | 0.77 |
| Benzo[a]pyrene | U | 0.86 | U | 0.90 | U | 0.81 | U | 0.80 | U | 0.77 |
| Indeno(1,2,3-c,d)pyrene | U | 0.79 | U | 0.82 | U | 0.74 | U | 0.73 | U | 0.71 |
| Dibenzo[a,h]anthracene | U | 0.78 | U | 0.82 | U | 0.74 | U | 0.73 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.79 | U | 0.82 | U | 0.74 | U | 0.73 | U | 0.71 |

COC: 03/12/02-PAHs



U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-12-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/12/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06882 | | 06883 | | 06884 | | 06885 | | 06886 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| | 948 | | 872.95 | | 936 | | 1008.7 | | 834.6 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.6 | U | 1.5 | U | 1.4 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.0 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.2 | U | 1.1 | U | 1.0 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.1 | U | 1.3 |
| Fluoranthene | U | 0.96 | U | 1.0 | U | 0.97 | U | 0.90 | U | 1.1 |
| Pyrene | U | 0.96 | U | 1.0 | U | 0.97 | U | 0.90 | U | 1.1 |
| Benzo[a]anthracene | U | 0.85 | U | 0.92 | U | 0.86 | U | 0.80 | U | 0.96 |
| Chrysene | U | 0.85 | U | 0.92 | U | 0.86 | U | 0.80 | U | 0.96 |
| Benzo[b]fluoranthene | U | 0.77 | U | 0.83 | U | 0.78 | U | 0.72 | U | 0.87 |
| Benzo[k]fluoranthene | U | 0.77 | U | 0.83 | U | 0.78 | U | 0.72 | U | 0.87 |
| Benzo[e]pyrene | U | 0.77 | U | 0.83 | U | 0.78 | U | 0.72 | U | 0.87 |
| Benzo[a]pyrene | U | 0.77 | U | 0.83 | U | 0.78 | U | 0.72 | U | 0.87 |
| Indeno(1,2,3-c,d)pyrene | U | 0.70 | U | 0.76 | U | 0.71 | U | 0.66 | U | 0.80 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.76 | U | 0.70 | U | 0.65 | U | 0.79 |
| Benzo[g,h,i]perylene | U | 0.70 | U | 0.76 | U | 0.71 | U | 0.66 | U | 0.80 |

COC: 03/12/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-12-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/12/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06887 | | 06888 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/12/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-12-02PAH.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06889 | | 06890 | | 06891 | | 06892 | | 06893 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 932.2 | | 933.63 | | 948 | | 908.7 | | 859.13 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 0.97 | U | 0.97 | U | 0.96 | U | 1.0 | U | 1.1 |
| Pyrene | U | 0.97 | U | 0.97 | U | 0.96 | U | 1.0 | U | 1.1 |
| Benzo[a]anthracene | U | 0.86 | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.94 |
| Chrysene | U | 0.86 | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.94 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[e]pyrene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[a]pyrene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |
| Dibenzo[a,h]anthracene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |

COC: 03/14/02-PAHs ERT: 3/28/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06894 | | 06895 | | 06896 | | 06897 | | 06898 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| | 948 | | 948 | | 948 | | 816 | | 948 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.8 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluoranthene | U | 0.96 | U | 0.96 | U | 0.96 | U | 1.1 | U | 0.96 |
| Pyrene | U | 0.96 | U | 0.96 | U | 0.96 | U | 1.1 | U | 0.96 |
| Benzo[a]anthracene | U | 0.85 | U | 0.85 | U | 0.85 | U | 0.99 | U | 0.85 |
| Chrysene | U | 0.85 | U | 0.85 | U | 0.85 | U | 0.99 | U | 0.85 |
| Benzo[b]fluoranthene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[k]fluoranthene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[e]pyrene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[a]pyrene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Indeno(1,2,3-c,d)pyrene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |

COC: 03/14/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06899 | | 06900 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/14/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/14/01**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | Quartz $mg/m^3$ | Cristobalite $mg/m^3$ | Tridymite $mg/m^3$ |
|---|---|---|---|---|---|---|---|
| | | | Liters | | | | |
| 3/14/01 | TTWS-0130 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0129 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0128 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0127 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0126 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0122 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0125 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0123 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0124 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/14/01 | TTWS-0121 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

># 03/14/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 3/26/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-14-02silica.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/05/02**

| Sample No. | WG7142-1 | | | 06760 | | | 06759 | | | 06758 | | | 06757 | | | 06576 | | | 06755 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 5603 | | | 6960 | | | 7620 | | | 6630 | | | 4875 | | | 7097 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0036 | U | | 0.0029 | U | | 0.0026 | U | | 0.0030 | U | | 0.0041 | U | | 0.0028 |
| 12378-PeCDD | U | 0.0070 | 0.10 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | 0.0005 | 0.015 | U | | 0.021 | U | | 0.014 |
| 123478-HxCDD | 0.0050 J | | 0.10 | U | 0.0008 | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.021 | U | | 0.014 |
| 123678-HxCDD | 0.0063 J | | 0.10 | U | 0.0008 | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.015 | 0.0010 J | | 0.021 | 0.0010 J | | 0.014 |
| 123789-HxCDD | 0.0075 J | | 0.10 | U | 0.0020 | 0.018 | U | | 0.014 | U | 0.0005 | 0.013 | U | | 0.015 | U | 0.0013 | 0.021 | U | 0.0005 | 0.014 |
| 1234678-HpCDD | 0.0078 J | | 0.10 | U | | 0.018 | U | | 0.014 | U | 0.0010 | 0.013 | U | | 0.015 | U | | 0.021 | U | 0.0013 | 0.014 |
| OCDD | 0.0296 J | | 0.20 | U | | 0.036 | U | | 0.029 | U | | 0.026 | U | 0.0024 | 0.030 | U | 0.0061 | 0.041 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.020 | U | | 0.0036 | U | | 0.0029 | U | | 0.0026 | U | | 0.0030 | U | | 0.0041 | U | | 0.0028 |
| 12378-PeCDF | U | 0.0059 | 0.10 | 0.0013 J | | 0.018 | U | | 0.014 | U | | 0.013 | U | 0.0005 | 0.015 | 0.0006 J | | 0.021 | 0.0006 J | | 0.014 |
| 23478-PeCDF | U | 0.0046 | 0.10 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0005 | 0.021 | U | 0.0005 | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | 0.0012 | 0.018 | U | 0.0003 | 0.014 | 0.0003 J | | 0.013 | U | 0.0003 | 0.015 | U | 0.0009 | 0.021 | U | 0.0005 | 0.014 |
| 123678-HxCDF | 0.0052 J | | 0.10 | 0.0012 J | | 0.018 | U | 0.0003 | 0.014 | 0.0005 J | | 0.013 | U | 0.0005 | 0.015 | U | 0.0008 | 0.021 | U | 0.0007 | 0.014 |
| 234678-HxCDF | U | 0.0031 | 0.10 | U | 0.0010 | 0.018 | U | | 0.014 | U | | 0.013 | U | 0.0004 | 0.015 | U | 0.0007 | 0.021 | U | 0.0006 | 0.014 |
| 123789-HxCDF | U | 0.0055 | 0.10 | 0.0016 J | | 0.018 | U | | 0.014 | 0.0005 J | | 0.013 | U | | 0.015 | U | 0.0009 | 0.021 | U | 0.0004 | 0.014 |
| 1234678-HpCDF | U | 0.0046 | 0.10 | 0.0020 J | | 0.018 | U | | 0.014 | U | | 0.013 | U | 0.0003 | 0.015 | U | | 0.021 | U | | 0.014 |
| 1234789-HpCDF | U | 0.0055 | 0.10 | 0.0015 J | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.021 | U | | 0.014 |
| OCDF | U | | 0.20 | 0.0050 J | | 0.036 | U | | 0.029 | U | | 0.026 | U | | 0.030 | U | | 0.041 | U | | 0.028 |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | 0.0011 | | | U | | | U | | | U | | | U | | | 0.0007 | | |
| Total HxCDDs | 0.0188 | | | U | | | U | | | U | | | U | | | 0.0010 | | | U | | |
| Total HpCDDs | 0.0118 | | | 0.0030 | | | U | | | U | | | U | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | 0.0021 | | | U | | | U | | | 0.0004 | | | 0.0006 | | | U | | |
| Total HxCDFs | 0.0052 | | | 0.0027 | | | U | | | 0.0013 | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | 0.0036 | | | U | | | U | | | U | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0025 | | | 0.0004 | | | 0.0000 | | | 0.0001 | | | 0.0000 | | | 0.0001 | | | 0.0002 | | |
| TEQ (ND=1/2) | 0.0387 | | | 0.0023 | | | 0.0009 | | | 0.0009 | | | 0.0009 | | | 0.0019 | | | 0.0013 | | |

COC# 03/05/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/26/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

3-05-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/05/02**

| Sample No. | 06754 | | | 06753 | | | 06752 | | | 06751 | | | 06761 | | | 06762 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 6690 | | | 7170 | | | 7125 | | | 7004 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0030 | U | | 0.0028 | U | | 0.0028 | U | | 0.0029 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.015 | U | | 0.014 | U | 0.0019 | 0.014 | U | 0.0026 | 0.014 | 0.0028 J | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.015 | U | | 0.014 | 0.0015 J | | 0.014 | U | 0.0022 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.015 | U | 0.0010 | 0.014 | 0.0015 J | | 0.014 | U | 0.0025 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.015 | U | 0.0011 | 0.014 | U | | 0.014 | U | | 0.014 | 0.0038 J | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0072 J | | 0.10 | U | 0.0058 | 0.10 |
| OCDD | U | | 0.030 | U | 0.0034 | 0.028 | U | | 0.028 | U | | 0.029 | 0.0158 J | | 0.20 | U | 0.0158 | 0.20 |
| 2378-TCDF | U | | 0.0030 | U | | 0.0028 | U | | 0.0028 | U | | 0.0029 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | 0.0010 | 0.015 | U | 0.0011 | 0.014 | 0.0016 J | | 0.014 | 0.0021 J | | 0.014 | U | 0.0030 | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.015 | U | | 0.014 | U | | 0.014 | U | 0.0020 | 0.014 | 0.0026 J | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | 0.0006 | 0.015 | 0.0010 J | | 0.014 | U | 0.0011 | 0.014 | 0.0017 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | 0.0006 J | | 0.015 | U | 0.0010 | 0.014 | U | 0.0013 | 0.014 | U | 0.0019 | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | 0.0007 J | | 0.015 | U | 0.0009 | 0.014 | 0.0014 J | | 0.014 | 0.0025 J | | 0.014 | U | 0.0030 | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | 0.0011 | 0.015 | U | 0.0012 | 0.014 | U | 0.0019 | 0.014 | 0.0030 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0012 J | | 0.015 | 0.0009 J | | 0.014 | 0.0013 J | | 0.014 | 0.0019 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | 0.0009 | 0.015 | U | 0.0007 | 0.014 | 0.0012 J | | 0.014 | 0.0023 J | | 0.014 | U | 0.0040 | 0.10 | U | | 0.10 |
| OCDF | U | | 0.030 | U | | 0.028 | 0.0019 J | | 0.028 | U | | 0.029 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0011 | | | 0.0010 | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | 0.0047 | | | 0.0037 | | | 0.0038 | | | U | | |
| Total HpCDDs | 0.0016 | | | 0.0020 | | | 0.0026 | | | 0.0085 | | | 0.0099 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0006 | | | 0.0008 | | | 0.0027 | | | 0.0021 | | | U | | | U | | |
| Total HxCDFs | 0.0015 | | | 0.0010 | | | 0.0014 | | | 0.0072 | | | U | | | U | | |
| Total HpCDFs | 0.0012 | | | 0.0009 | | | 0.0025 | | | 0.0042 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0002 | | | 0.0005 | | | 0.0009 | | | 0.0032 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0020 | | | 0.0020 | | | 0.0022 | | | 0.0022 | | | 0.0399 | | | 0.0401 | | |

**COC# 03/05/02 dioxin**

3-05-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/07/02**

| Sample No. | WG7146-1 | | | 06772 | | | 06771 | | | 06770 | | | 06769 | | | 06768 | | | 06767 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 0 | | | 7515 | | | 7485 | | | 7200 | | | 7275 | | | 6315 | | | 7305 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.0027 | U | | 0.0032 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.016 | U | | 0.014 |
| 123478-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.016 | U | | 0.014 |
| 123678-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.016 | U | | 0.014 |
| 123789-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | | 0.016 | 0.0008 J | | 0.014 |
| 1234678-HpCDD | U | 0.0068 | 0.10 | 0.0008 J | | 0.013 | 0.0011 J | | 0.014 | 0.0011 J | | 0.014 | U | | 0.014 | 0.0010 J | | 0.016 | 0.0009 J | | 0.014 |
| OCDD | U | 0.0322 | 0.20 | 0.0026 J | | 0.027 | 0.0030 J | | 0.027 | U | 0.0039 | 0.028 | 0.0034 J | | 0.027 | U | 0.0031 | 0.032 | 0.0031 J | | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.0027 | U | | 0.0032 | U | | 0.0027 |
| 12378-PeCDF | U | 0.0028 | 0.10 | 0.0002 J | | 0.013 | U | | 0.014 | U | 0.0003 | 0.014 | U | 0.0002 | 0.014 | U | 0.0005 | 0.016 | U | 0.0002 | 0.014 |
| 23478-PeCDF | 0.0019 J | | 0.10 | 0.0003 J | | 0.013 | U | 0.0002 | 0.014 | 0.0002 J | | 0.014 | U | 0.0003 | 0.014 | U | 0.0003 | 0.016 | U | 0.0003 | 0.014 |
| 123478-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | 0.0002 J | | 0.016 | U | | 0.014 |
| 123678-HxCDF | U | 0.0029 | 0.10 | U | | 0.013 | U | | 0.014 | U | 0.0003 | 0.014 | U | 0.0003 | 0.014 | U | 0.0004 | 0.016 | U | 0.0003 | 0.014 |
| 234678-HxCDF | U | 0.0034 | 0.10 | U | | 0.013 | 0.0004 J | | 0.014 | U | 0.0004 | 0.014 | 0.0003 J | | 0.014 | U | | 0.016 | 0.0004 J | | 0.014 |
| 123789-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.014 | U | 0.0003 | 0.016 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | 0.0006 J | | 0.014 | U | | 0.014 | U | 0.0006 | 0.016 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.014 | U | 0.0006 | 0.014 | U | | 0.014 | U | | 0.016 | U | 0.0005 | 0.014 |
| OCDF | U | | 0.20 | U | | 0.027 | U | | 0.027 | 0.0014 J | | 0.028 | U | | 0.027 | U | | 0.032 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0008 | | |
| Total HpCDDs | 0.0078 | | | 0.0008 | | | 0.0011 | | | 0.0011 | | | U | | | 0.0010 | | | 0.0009 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0019 | | | 0.0005 | | | U | | | 0.0002 | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | 0.0004 | | | U | | | 0.0003 | | | 0.0002 | | | 0.0004 | | |
| Total HpCDFs | U | | | U | | | U | | | 0.0006 | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0010 | | | 0.0002 | | | 0.0001 | | | 0.0001 | | | 0.0001 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0410 | | | 0.0007 | | | 0.0008 | | | 0.0009 | | | 0.0009 | | | 0.0009 | | | 0.0009 | | |

COC# 03/07/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent

ERTC 3/26/02

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

3-07-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/07/02**

| Sample No. | 06766 | | | 06765 | | | 06764 | | | 06763 | | | 06773 | | | 06774 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7517.5 | | | 5895 | | | 6989 | | | 6463.5 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0034 | U | | 0.0029 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | 0.0003 | 0.013 | U | | 0.017 | 0.0007 J | | 0.014 | U | 0.0009 | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.013 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.013 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | 0.0008 J | | 0.013 | U | 0.0008 | 0.017 | U | | 0.014 | 0.0010 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0013 J | | 0.013 | 0.0013 J | | 0.017 | U | 0.0014 | 0.014 | 0.0020 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDD | U | 0.0028 | 0.027 | 0.0045 J | | 0.034 | 0.0036 J | | 0.029 | 0.0062 J | | 0.031 | U | | 0.20 | U | 0.0194 | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| 2378-TCDF | U | | 0.0027 | U | | 0.0034 | U | | 0.0029 | U | | 0.0031 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | 0.0006 J | | 0.013 | 0.0005 J | | 0.017 | U | 0.0005 | 0.014 | U | 0.0006 | 0.015 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | 0.0005 J | | 0.013 | U | 0.0004 | 0.017 | U | 0.0004 | 0.014 | U | 0.0004 | 0.015 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | 0.0005 | 0.013 | U | 0.0004 | 0.017 | 0.0005 J | | 0.014 | U | 0.0006 | 0.015 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | 0.0006 | 0.013 | 0.0005 J | | 0.017 | 0.0007 J | | 0.014 | U | 0.0008 | 0.015 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | 0.0004 J | | 0.013 | U | 0.0005 | 0.017 | U | 0.0005 | 0.014 | 0.0007 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | 0.0006 J | | 0.013 | U | | 0.017 | 0.0007 J | | 0.014 | 0.0008 J | | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | 0.0005 J | | 0.013 | U | | 0.017 | U | | 0.014 | U | 0.0008 | 0.015 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.013 | U | | 0.017 | U | | 0.014 | U | | 0.015 | U | | 0.10 | U | | 0.10 |
| OCDF | 0.0012 J | | 0.027 | U | | 0.034 | U | | 0.029 | U | | 0.031 | U | | 0.20 | U | | 0.20 |
| | | | | | | | | | | | | | | | | | | |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | 0.0007 | | | U | | | U | | | U | | |
| Total HxCDDs | 0.0008 | | | U | | | U | | | 0.0010 | | | U | | | U | | |
| Total HpCDDs | 0.0013 | | | 0.0013 | | | 0.0006 | | | 0.0020 | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0010 | | | 0.0005 | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0010 | | | 0.0005 | | | 0.0018 | | | 0.0015 | | | U | | | U | | |
| Total HpCDFs | 0.0005 | | | U | | | U | | | U | | | U | | | U | | |
| | | | | | | | | | | | | | | | | | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0005 | | | 0.0001 | | | 0.0005 | | | 0.0003 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0011 | | | 0.0010 | | | 0.0014 | | | 0.0013 | | | 0.0401 | | | 0.0401 | | |

COC# 03/07/02 dioxin

3-07-02dioair.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/19/01**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | Quartz $mg/m^3$ | Cristobalite $mg/m^3$ | Tridymite $mg/m^3$ |
|---|---|---|---|---|---|---|---|
| | | | Liters | | | | |
| 3/19/01 | TTWS-0142 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0141 | 3A | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0140 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0139 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0137 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0138 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0134 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0135 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0136 | S | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/19/01 | TTWS-0133 | R | 980 | Air | <0.01 | <0.02 | <0.02 |

:# 03/19/02-TTSilica

**Sampling Locations:**

NS: Not sampled

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St

ERT 3/26/02

G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

**NIOSH 7500: Silica crystalline by XRD**

FL-03-19-01silica.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06889 | | 06890 | | 06891 | | 06892 | | 06893 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location D | |
| Volume (L) | 932.2 | | 933.63 | | 948 | | 908.7 | | 859.13 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.6 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 0.97 | U | 0.97 | U | 0.96 | U | 1.0 | U | 1.1 |
| Pyrene | U | 0.97 | U | 0.97 | U | 0.96 | U | 1.0 | U | 1.1 |
| Benzo[a]anthracene | U | 0.86 | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.94 |
| Chrysene | U | 0.86 | U | 0.86 | U | 0.85 | U | 0.89 | U | 0.94 |
| Benzo[b]fluoranthene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[k]fluoranthene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[e]pyrene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Benzo[a]pyrene | U | 0.78 | U | 0.78 | U | 0.77 | U | 0.80 | U | 0.85 |
| Indeno(1,2,3-c,d)pyrene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |
| Dibenzo[a,h]anthracene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |
| Benzo[g,h,i]perylene | U | 0.71 | U | 0.71 | U | 0.70 | U | 0.73 | U | 0.77 |

COC: 03/14/02-PAHs ERT: 3/28/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06894 | | 06895 | | 06896 | | 06897 | | 06898 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| | 948 | | 948 | | 948 | | 816 | | 948 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.8 | U | 1.5 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Biphenyl | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Acenaphthylene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| Acenaphthene | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| Dibenzofuran | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluorene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Phenanthrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 |
| Anthracene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.3 | U | 1.1 |
| Carbazole | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 |
| Fluoranthene | U | 0.96 | U | 0.96 | U | 0.96 | U | 1.1 | U | 0.96 |
| Pyrene | U | 0.96 | U | 0.96 | U | 0.96 | U | 1.1 | U | 0.96 |
| Benzo[a]anthracene | U | 0.85 | U | 0.85 | U | 0.85 | U | 0.99 | U | 0.85 |
| Chrysene | U | 0.85 | U | 0.85 | U | 0.85 | U | 0.99 | U | 0.85 |
| Benzo[b]fluoranthene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[k]fluoranthene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[e]pyrene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Benzo[a]pyrene | U | 0.77 | U | 0.77 | U | 0.77 | U | 0.89 | U | 0.77 |
| Indeno(1,2,3-c,d)pyrene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |
| Dibenzo[a,h]anthracene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |
| Benzo[g,h,i]perylene | U | 0.70 | U | 0.70 | U | 0.70 | U | 0.81 | U | 0.70 |

COC: 03/14/02-PAHs
U: Denotes not detecled
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/14/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06899 | | 06900 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/14/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-14-02PAH.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/12/02**

| Sample No. | WG7157-1 | | | 06784 | | | 06783 | | | 06782 | | | 06781 | | | 06780 | | | 06778 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | Location S | | |
| Volume (Liters) | 0 | | | 7571.38 | | | 7755 | | | 7830 | | | 6670 | | | 6660 | | | 7537.25 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0026 | U | | 0.0026 | NA | | NA | U | | 0.0030 | U | | 0.0030 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 123478-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 123678-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 123789-HxCDD | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 1234678-HpCDD | 0.0040 J | | 0.10 | U | 0.0006 | 0.013 | U | 0.0006 | 0.013 | NA | | NA | U | 0.0009 | 0.015 | 0.0007 J | | 0.015 | U | 0.0005 | 0.013 |
| OCDD | U | 0.0253 | 0.20 | U | 0.0026 | 0.026 | U | 0.0027 | 0.026 | NA | | NA | 0.0051 J | | 0.030 | U | 0.0031 | 0.030 | 0.0025 J | | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0026 | U | | 0.0026 | NA | | NA | U | | 0.0030 | U | | 0.0030 | U | | 0.0027 |
| 12378-PeCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 23478-PeCDF | U | | 0.10 | U | | 0.013 | 0.0002 J | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | 0.0002 | 0.013 |
| 123478-HxCDF | U | | 0.10 | 0.0002 J | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 123678-HxCDF | U | | 0.10 | U | | 0.013 | 0.0003 J | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 234678-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 123789-HxCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| 1234678-HpCDF | U | | 0.10 | 0.0006 | | 0.013 | 0.0005 J | | 0.013 | NA | | NA | 0.0006 J | | 0.015 | U | | 0.015 | U | | 0.013 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.013 | U | | 0.013 | NA | | NA | U | | 0.015 | U | | 0.015 | U | | 0.013 |
| OCDF | U | | 0.20 | U | | 0.026 | U | | 0.026 | NA | | NA | 0.0013 J | | 0.030 | U | | 0.030 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | NA | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | NA | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | NA | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0040 | | | U | | | U | | | NA | | | U | | | 0.0007 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | NA | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | 0.0002 | | | NA | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | 0.0002 | | | 0.0003 | | | NA | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0005 | | | NA | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0002 | | | NA | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0401 | | | 0.0007 | | | 0.0007 | | | NA | | | 0.0008 | | | 0.0007 | | | 0.0007 | | |

COC# 03/12/02 dioxin

B= Not detected due to blank contamination

EMPC: Estimated Maximum Possible Concentration

TEQ: Toxicity Equivalent

NA Not Analyzed . Sample not received by the laboratory

The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

ERTC 3/28/02

3-12-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/12/02**

| Sample No. | 06777 | | | 06776 | | | 06775 | | | 06785 | | | 06786 | | | WG7157-1C | | | 06779 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | | Method Blank | | | D Greenwich & Albany St. | | |
| Volume (Liters) | 6244.88 | | | 6675 | | | 7500 | | | 0 | | | 0 | | | 0 | | | 7119.5 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.0032 | U | | 0.0030 | U | | 0.0027 | U | | 0.020 | U | | 0.020 | U | | 0.020 | U | | 0.0028 |
| 12378-PeCDD | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 123478-HxCDD | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 123678-HxCDD | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 123789-HxCDD | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 1234678-HpCDD | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | 0.0004 J | | 0.10 | U | 0.0052 | 0.10 | U | | 0.014 |
| OCDD | 0.0029 J | | 0.032 | 0.0016 J | | 0.030 | 0.0016 J | | 0.027 | U | | 0.20 | U | | 0.20 | 0.0238 J | | 0.20 | U | 0.0041 | 0.028 |
| 2378-TCDF | U | | 0.0032 | U | | 0.0030 | U | | 0.0027 | U | | 0.020 | U | | 0.020 | U | | 0.020 | U | | 0.0028 |
| 12378-PeCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 23478-PeCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | 0.0015 | 0.10 | U | 0.0014 | 0.10 | U | | 0.10 | U | | 0.014 |
| 123478-HxCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 123678-HxCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 234678-HxCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 123789-HxCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 1234678-HpCDF | U | | 0.016 | 0.0002 J | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.016 | U | | 0.015 | U | | 0.013 | U | | 0.10 | U | | 0.10 | U | | 0.10 | U | | 0.014 |
| OCDF | U | | 0.032 | U | | 0.030 | U | | 0.027 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.028 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | 0.0004 | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | 0.0002 | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0008 | | | 0.0007 | | | 0.0007 | | | 0.0401 | | | 0.0401 | | | 0.0406 | | | 0.0015 | | |

COC# 03/12/02 dioxin

3-12-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/14/02**

| Sample No. | WG7160-1 | | | 06796 | | | 06795 | | | 06793 | | | 06792 | | | 06791 | | | 06789 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | D Greenwich & Albany St. | | | Location P | | |
| Volume (Liters) | 0 | | | 5775 | | | 7005 | | | 7620 | | | 7085 | | | 7183 | | | 7455 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0035 | U | | 0.0029 | U | | 0.0027 | U | | 0.0028 | U | | 0.0028 | U | | 0.0027 |
| 12378-PeCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123478-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123678-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123789-HxCDD | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.017 | 0.0009 J | | 0.014 | U | 0.0007 | 0.013 | U | | 0.014 | U | 0.0009 | 0.014 | U | 0.0012 | 0.013 |
| OCDD | U | 0.0129 | 0.20 | U | | 0.035 | U | 0.0043 | 0.029 | U | | 0.027 | U | | 0.028 | U | | 0.028 | U | 0.0041 | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0035 | U | | 0.0029 | U | | 0.0027 | U | | 0.0028 | U | | 0.0028 | U | | 0.0027 |
| 12378-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 23478-PeCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123478-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 234678-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 123789-HxCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.017 | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.013 |
| OCDF | U | | 0.20 | U | | 0.035 | U | | 0.029 | U | | 0.027 | U | | 0.028 | U | | 0.028 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | 0.0009 | | | U | | | U | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0414 | | | 0.0015 | | | 0.0016 | | | 0.0014 | | | 0.0016 | | | 0.0016 | | | 0.0015 | | |

COC# 03/14/02 dioxin

B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent
NA Not Analyzed . Sample not received by the laboratory
The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

ERTC 3/29/02

3-14-02dioair.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/14/02**

| Sample No. | 06788 | | | 06787 | | | 06798 | | | WG7160-1C | | | 06794 | | | 06790 | | | 06797 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location E | | | R- TAGA | | | Lot Blank | | | Method Blank | | | B-Church & Dey St. | | | Location S | | | Field Blank | | |
| Volume (Liters) | 7410 | | | 6780 | | | 0 | | | 0 | | | 7620 | | | 7500 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0030 | U | | 0.020 | U | | 0.020 | U | | 0.0026 | U | | 0.0027 | U | | 0.020 |
| 12378-PeCDD | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 123478-HxCDD | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 123678-HxCDD | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 123789-HxCDD | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.013 | 0.0026 J | | 0.015 | U | | 0.10 | U | 0.0041 | 0.10 | U | 0.0006 | 0.013 | 0.0006 J | | 0.013 | U | 0.0031 | 0.10 |
| OCDD | U | 0.0046 | 0.027 | U | | 0.030 | U | 0.0134 | 0.20 | U | 0.0148 | 0.20 | U | | 0.026 | U | | 0.027 | 0.0121 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0030 | U | | 0.020 | U | | 0.020 | U | | 0.0026 | U | | 0.0027 | U | | 0.020 |
| 12378-PeCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | 0.0009 | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 23478-PeCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | 0.0014 | 0.10 | U | | 0.013 | U | | 0.013 | U | 0.0015 | 0.10 |
| 123478-HxCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 123678-HxCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 234678-HxCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 123789-HxCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | 0.0002 | 0.013 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.013 | U | | 0.015 | U | | 0.10 | U | | 0.10 | U | | 0.013 | U | | 0.013 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.030 | U | | 0.20 | U | | 0.20 | U | | 0.026 | U | | 0.027 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | 0.0016 | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | 0.0050 | | | U | | | U | | | U | | | 0.0006 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0016 | | | 0.0021 | | | 0.0401 | | | 0.0401 | | | 0.0005 | | | 0.0006 | | | 0.0401 | | |

COC# 03/14/02 dioxin

3-14-02dioair.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06624 | | 06624 | | 06624 | | 06623 | | 06613 | | 06614 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 6423.5 | | 4469 | |
| Date Collected | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.60 | U | 0.60 | U | 0.60 | U | 0.60 | U | 0.093 | U | 0.13 |
| Antimony | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U J | 0.075 | U J | 0.012 | U J | 0.017 |
| Arsenic | AA-Fur | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.005 | U | 0.007 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.049 | U | 0.070 |
| Beryllium | ICAP | U | 0.050 | U | 0.050 | U | 0.050 | U | 0.050 | U | 0.008 | U | 0.011 |
| Cadmium | ICAP | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.003 | U | 0.004 |
| Calcium | ICAP | 3.7 | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | 0.99 J | 0.54 | 3.6 J | 0.78 |
| Chromium | ICAP | 0.53 | 0.042 | 0.88 | 0.042 | 0.68 | 0.042 | 0.39 | 0.042 | U | 0.007 | U | 0.009 |
| Cobalt | ICAP | U | 0.034 | 0.054 | 0.034 | U | 0.034 | U | 0.034 | U | 0.005 | 0.015 | 0.007 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.069 | U | 0.099 |
| Iron | ICAP | U | 0.90 | U | 0.90 | U | 0.90 | U | 0.90 | 0.62 J | 0.14 | 2.6 J | 0.20 |
| Lead | AA-Fur | U | 0.010 | U | 0.010 | U | 0.010 | U | 0.010 | 0.009 | 0.002 | 0.029 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U | 0.52 | U | 0.74 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U J | 0.078 | U J | 0.012 | U J | 0.017 |
| Nickel | ICAP | U | 0.058 | 0.076 | 0.058 | U | 0.058 | U J | 0.058 | U J | 0.009 | U J | 0.013 |
| Potassium | ICAP | 11 | 3.7 | 13 | 3.7 | 8.0 | 3.7 | U J | 3.7 | U J | 0.57 | U J | 0.82 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.012 | U | 0.017 |
| Silver | ICAP | 0.37 | 0.025 | 0.52 | 0.025 | 0.17 | 0.025 | 0.084 | 0.025 | U | 0.004 | U | 0.006 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U R | 3.7 | U R | 0.57 | U R | 0.82 |
| Thallium | AA-Fur | U | 0.035 | U | 0.035 | U | 0.035 | U J | 0.035 | U J | 0.005 | U J | 0.008 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.006 | U | 0.008 |
| Zinc | ICAP | U | 0.079 | U | 0.079 | U | 0.079 | U J | 0.079 | 0.067 J | 0.012 | U J | 0.018 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

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Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06615 | | 06616 | | 06618 | | 06619 | | 06620 | | 06621 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | LOC B CHURCH & DEY ST | | D-GREENWICH & ALBANY ST. | | S-RECTOR PLACE & SOUTH END AVE | | P-ALBANY ST. & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4980 | | 3920 | | 3192 | | 3680 | | 4046.25 | | 3140 | |
| Date Collected | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | | 01/31/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.12 | U | 0.15 | U | 0.19 | U | 0.16 | 1.9 J | 0.15 | U | 0.19 |
| Antimony | AA-Fur | U J | 0.015 | U J | 0.019 | U J | 0.023 | U J | 0.020 | U J | 0.019 | U J | 0.024 |
| Arsenic | AA-Fur | U | 0.006 | U | 0.008 | U | 0.010 | U | 0.009 | U | 0.008 | U | 0.010 |
| Barium | ICAP | U | 0.063 | U | 0.080 | U | 0.099 | U | 0.086 | U | 0.078 | U | 0.10 |
| Beryllium | ICAP | U | 0.010 | U | 0.013 | U | 0.016 | U | 0.014 | U | 0.012 | U | 0.016 |
| Cadmium | ICAP | U | 0.003 | U | 0.004 | U | 0.005 | U | 0.004 | U | 0.004 | U | 0.005 |
| Calcium | ICAP | 1.9 J | 0.70 | 4.1 J | 0.89 | 3.6 J | 1.1 | 3.1 J | 0.95 | 8.5 J | 0.86 | 4.2 J | 1.1 |
| Chromium | ICAP | U | 0.008 | U | 0.011 | U | 0.013 | U | 0.250 | U | 0.010 | U | 0.013 |
| Cobalt | ICAP | U | 0.007 | U | 0.009 | U | 0.011 | U | 0.009 | U | 0.008 | U | 0.011 |
| Copper | ICAP | U | 0.089 | U | 0.11 | U | 0.14 | U | 0.12 | U | 0.11 | U | 0.14 |
| Iron | ICAP | 1.5 J | 0.18 | 3.2 J | 0.23 | 5.4 J | 0.28 | 1.5 J | 0.24 | 5.7 J | 0.22 | 2.7 J | 0.29 |
| Lead | AA-Fur | 0.022 | 0.002 | 0.030 | 0.003 | 0.029 | 0.003 | 0.025 | 0.003 | 0.068 | 0.003 | 0.037 | 0.003 |
| Magnesium | ICAP | U | 0.67 | U | 0.85 | U | 1.0 | U | 0.90 | 2.7 | 0.82 | U | 1.1 |
| Manganese | ICAP | U J | 0.016 | U J | 0.020 | U J | 0.025 | U J | 0.021 | U J | 0.020 | U J | 0.025 |
| Nickel | ICAP | U J | 0.012 | U J | 0.015 | U J | 0.018 | U J | 0.016 | U J | 0.014 | U J | 0.019 |
| Potassium | ICAP | U J | 0.74 | 1.9 J | 0.94 | U J | 1.2 | 0.58 J | 1.0 | U J | 0.91 | U J | 1.2 |
| Selenium | ICAP | U | 0.015 | U | 0.019 | U | 0.023 | U | 0.020 | U | 0.019 | U | 0.024 |
| Silver | ICAP | U | 0.005 | U | 0.006 | U | 0.008 | U | 0.007 | U | 0.006 | U | 0.008 |
| Sodium | ICAP | U R | 0.74 | U R | 0.94 | U R | 1.2 | U R | 1.0 | U R | 0.91 | U R | 1.2 |
| Thallium | AA-Fur | U J | 0.007 | U J | 0.009 | U J | 0.011 | U J | 0.010 | U | 0.009 | U J | 0.011 |
| Vanadium | ICAP | U | 0.007 | U | 0.009 | U | 0.012 | U | 0.010 | U | 0.009 | U | 0.012 |
| Zinc | ICAP | U J | 0.016 | U J | 0.020 | U J | 0.025 | U J | 0.021 | U J | 0.020 | U J | 0.025 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| | | |
|---|---|---|
| Client ID | | 06622 |
| Location | | E-LIBERTY ST. & SOUTH END AVE |
| Air Volume (L) | | 3750 |
| Date Collected | | 01/31/02 |

| Parameter | Analysis Method | Conc µg/m³ | | MDL µg/m³ |
|---|---|---|---|---|
| Aluminum | ICAP | U | | 0.16 |
| Antimony | AA-Fur | U | J | 0.020 |
| Arsenic | AA-Fur | U | | 0.009 |
| Barium | ICAP | U | | 0.084 |
| Beryllium | ICAP | U | | 0.013 |
| Cadmium | ICAP | U | | 0.004 |
| Calcium | ICAP | 2.5 | J | 0.93 |
| Chromium | ICAP | U | | 0.011 |
| Cobalt | ICAP | U | | 0.009 |
| Copper | ICAP | U | | 0.12 |
| Iron | ICAP | 2.1 | J | 0.24 |
| Lead | AA-Fur | 0.13 | | 0.003 |
| Magnesium | ICAP | U | | 0.88 |
| Manganese | ICAP | U | | 0.021 |
| Nickel | ICAP | U | | 0.016 |
| Potassium | ICAP | U | J | 1.0 |
| Selenium | AA-Fur | U | J | 0.020 |
| Silver | ICAP | U | | 0.008 |
| Sodium | ICAP | U | R | 0.98 |
| Thallium | AA-Fur | U | J | 0.009 |
| Vanadium | ICAP | U | | 0.010 |
| Zinc | ICAP | U | J | 0.021 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 2, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 964 | 08:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.1 | 117.1 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 964 | 08:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 17.91 | 69.5 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 950 | 07:55 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 20.2 | 79.3 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 952 | 07:56 | 10 | ---- | ---- | ---- | 0.1 | 15.8 | ---- |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D065 | 1 | 475 | 07:55 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 16.7 | 52.3 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 29, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 31.5 | 207.1 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 32.7 | 84.6 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 35.5 | 154.5 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 978 | 08:09 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 31.7 | 715.3 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | 2621 | 1 | ---- | ---- | 10 | 00:00:10 | 1 | 0.0 | 0.1 | ---- | ---- |

*Note: DataRam at perimeter location 8 had a system fault and logged no data. I contacted the company and they will send a replacement DataRam on Monday.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 1, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 1082 | 09:01 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.1 | 185.1 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 1084 | 09:02 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.1 | 119.7 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | ---- | ---- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 6 | -74.207406 | 40.563818 | ---- | 1 | ---- | ---- | 10 | ---- | ---- | ---- | 0.1 | ---- | ---- |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | D088 | 1 | 1103 | 11:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.1 | 93.5 |

*Note: DataRams at perimeter location 5 & 6 did not run due to equipment failure. I contacted the company and they will send replacement DataRams today.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**March 28, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | -74.198262 | 40.566883 | D089 | 1 | 970 | 08:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.8 | 237.5 |
| 3 | -74.198685 | 40.570054 | D075 | 1 | 970 | 08:05 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.6 | 350.9 |
| 4 | -74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | -74.205873 | 40.568892 | D074 | 1 | 962 | 08:01 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.5 | 46.5 |
| 6 | -74.207406 | 40.563818 | D088 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.7 | 164.1 |
| 7 | -74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | -74.203019 | 40.561915 | 2621 | 1 | 2864 | 07:57 | 10 | 00:00:10 | 1 | 0.0 | 0.1 | 12.1 | 114.4 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 1, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0647 | 0652 | 0634 |
| Stop Time | 1436 | 1440 | 1425 |
| Run Time (minutes) | 469 | 468 | 471 |
| Maximum Concentration ($ug/m^3$) | 58.31 | 60.28 | 77.25 |
| Average Concentration ($ug/m^3$) | 21.08 | 18.64 | 18.85 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 28, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0701 | 0705 | 0648 |
| Stop Time | 1456 | 1501 | 1444 |
| Run Time (minutes) | 475 | 476 | 476 |
| Maximum Concentration ($ug/m^3$) | 46.28 | 51.57 | 52.19 |
| Average Concentration ($ug/m^3$) | 17.14 | 12.58 | 19.24 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 29, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0644 | 0648 | 0632 |
| Stop Time | 1447 | 1453 | 1435 |
| Run Time (minutes) | 483 | 485 | 483 |
| Maximum Concentration ($ug/m^3$) | 102.01 | 281.13 | 64.63 |
| Average Concentration ($ug/m^3$) | 41.54 | 33.63 | 34.29 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 30, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D076 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0644 | 0647 | 0631 |
| **Stop Time** | 1359 | 1357 | 1351 |
| **Run Time (minutes)** | 435 | 430 | 440 |
| **Maximum Concentration ($ug/m^3$)** | 163.06 | 227.42 | 94.72 |
| **Average Concentration ($ug/m^3$)** | 64.46 | 57.38 | 59.62 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: March 27, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0704 | 0709 | 0651 |
| Stop Time | 1506 | 1510 | 1453 |
| Run Time (minutes) | 482 | 481 | 482 |
| Maximum Concentration ($ug/m^3$) | 41.72 | 55.62 | 65.21 |
| Average Concentration ($ug/m^3$) | 11.41 | 10.67 | 14.09 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/03/02**

| File Name | NYC1446 | NYC1447 | NYC1448 | NYC1449 | NYC1451 | NYC1450 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07675 | A07676 | A07677 | A07678 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 30 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/28/02**

| File Name | NYC1397 | NYC1398 | NYC1399 | NYC1400 | NYC1402 | NYC1401 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07651 | A07653 | A07652 | A07654 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/29/02**

| File Name | NYC1405 | NYC1406 | NYC1407 | NYC1408 | NYC1410 | NYC1409 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07655 | A07656 | A07657 | A07658 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/30/02**

| File Name | NYC1413 | NYC1414 | NYC1415 | NYC1416 | NYC1418 | NYC1417 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07659 | A07660 | A07661 | A07662 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | **110** | **26** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | **49** | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/31/02**

| File Name | NYC1421 | NYC1422 | NYC1423 | NYC1424 | NYC1426 | NYC1425 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07663 | A07664 | A07665 | A07666 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-1* MODIFIED METHOD**
**DRAFT GC/MS Results for 04/01/02**

| File Name | NYC1429 | NYC1430 | NYC1431 | NYC1432 | NYC1434 | NYC1433 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07667 | A07668 | A07669 | A07670 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | 160 | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/02/02**

| File Name | NYC1437 | NYC1438 | NYC1439 | NYC1440 | NYC1442 | NYC1441 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07671 | A07672 | A07673 | A07674 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 03/27/02**

| File Name | NYC1389 | NYC1390 | NYC1391 | NYC1392 | NYC1394 | NYC1393 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07647 | A07648 | A07649 | A07650 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | **21** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | **52** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **44** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | **29** |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, April 4, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 12:30 p.m. on April 5**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 141 samples taken in and around ground zero from March 25 through March 29. EPA also sampled for asbestos at two additional Lower Manhattan locations from March 16 through March 19, and from March 21 through March 23. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

One sample, taken on March 29 at Location "W" (Wash Tent Common Area) showed 96 structures per square millimeter. This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,612, with 19 samples above the standard (11 of these were collected prior to September 30; the other seven were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9 and March 29).

**Air Sampling for Particulates** - EPA collected samples on April 2 and April 3 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Dioxin** - A total of 39 samples were collected on March 5, 7, 12, and 14, at various locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 28. All samples showed results less than the AHERA standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 3.

**Elsewhere in New York City:**

**Air Sampling for Asbestos** - Samples were collected from March 16 through March 19, and from March 21 through March 23, at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). Samples were also collected on March 20 at P.S. 154 and P.S. 99. None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, April 4, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 24 PM)

Results pending.

NYC / ER (Mar 25, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 25, PM)

Results pending.

NYC / ER (Mar 26, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 26, 1200 - 2400 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
1 sample (Location U) was not collected due to an equipment malfunction.
1 sample (Location D) was not collected due to a wet filter.

NYC / ER (Mar 27, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 27, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location L) was not collected due to tampering.

NYC / ER (Mar 28, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 28, 1200 - 2359 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Mar 29 AM)

Results pending.

NYC / ER (Mar 29, 1200 - 2359 hrs)

1 of 18 samples analyzed was above the TEM AHERA standard.
**Exceedance of the TEM AHERA standard occurred at Location W (96.00 S/mm$^2$).**

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Mar 28, 0801 - 2239 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 3) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 16 - 23) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 51 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.
5 samples (Sites 1, 2, 6, 7, and 8) from March 20 were not collected due to equipment malfunctions.

NYC / ER (Apr 2) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 24.60 ug/$m^3$ with a maximum reading of 270.59 ug/$m^3$.
Station N had an average of 21.41 ug/$m^3$ with a maximum reading of 51.34 ug/$m^3$.
Station R had an average of 23.49 ug/$m^3$ with a maximum reading of 88.84 ug/$m^3$.

NYC / ER (Apr 3) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 40.39 ug/$m^3$ with a maximum reading of 97.15 ug/$m^3$.
Station N had an average of 28.59 ug/$m^3$ with a maximum reading of 70.32 ug/$m^3$.
Station R had an average of 32.12 ug/$m^3$ with a maximum reading of 65.30 ug/$m^3$.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/29/2002**
**Sampling Date and Time:** **3/26/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/26/02 | FB032602 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/26/02 | TB032602 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/26/02 | TTW-01899 | W | 1440 | Air | 8.92 | 0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/26/02 | TTW-01900 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01901 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/26/02 | TTW-01902 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/26/02 | TTW-01903 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01904 | V | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/26/02 | TTW-01905 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01906 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/26/02 | TTW-01907 | C | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0049 |
| 03/26/02 | TTW-01908 | C-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01909 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01910 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01911 | A-Dup | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/26/02 | TTW-01912 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01913 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01914 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/26/02 | TTW-01915 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01916 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/29/02**
**Sampling Date and Time:** 3/26/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 03/26/02 | TTW-01918 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/26/02 | TTW-01919 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01920 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01922 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/26/02 | TTW-01923 | V-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01924 | K | 1368 | Air | 10.83 | 0.003 | 0 | 0 | <16 | <0.0045 |
| 03/26/02 | TTW-01926 | C | 1135.7 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/26/02 | TTW-01927 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01928 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01929 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01930 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/26/02 | TTW-01931 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/26/02 | TTW-01932 | M1 | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0041 |
| 03/26/02 | TTW-01933 | L | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0046 |
| 03/26/02 | TTW-01934 | L-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/26/02 | TTW-01917 | W | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0045 |

*No Sample Submitted for Location U due to pump fault*
*No Sample Submitted for Location D due to rain getting into sample filter*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
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R: TAGA Bus Location
S: Rector & South End
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**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/29/2002**
**Sampling Date and Time:** 3/27/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/27/02 | FB032702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/27/02 | TB032702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/27/02 | TTW-01935 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01936 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/27/02 | TTW-01937 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01938 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0042 |
| 03/27/02 | TTW-01939 | U | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/27/02 | TTW-01940 | V | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0041 |
| 03/27/02 | TTW-01941 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01942 | D | 1415.4 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0044 |
| 03/27/02 | TTW-01943 | C | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0045 |
| 03/27/02 | TTW-01944 | B | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0041 |
| 03/27/02 | TTW-01945 | B-Dup | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 03/27/02 | TTW-01946 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01947 | F | 1262.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/27/02 | TTW-01948 | F-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01949 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01950 | N | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0041 |
| 03/27/02 | TTW-01951 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |
| 03/27/02 | TTW-01952 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16 | <0.0043 |

**Sampling Locations:**
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G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
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M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
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**Key:**
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** Structure (S) is roughly equivalent to fiber (f)
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***** Amosite
NA[1] - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-27-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/02/2002**
**Sampling Date and Time:** **3/25/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/25/02 | FB032502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/25/02 | TB032502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/25/02 | TTW-01863 | W | 1476 | Air | 10.19 | 0.003 | ***1 | 0 | 16.00 | 0.0042 |
| 03/25/02 | TTW-01864 | Q | 1428 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01865 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01866 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/25/02 | TTW-01867 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01868 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/25/02 | TTW-01869 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01870 | D | 1404 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/25/02 | TTW-01871 | D-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01872 | C | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/25/02 | TTW-01873 | B | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/25/02 | TTW-01874 | B-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01875 | A | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/25/02 | TTW-01876 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01877 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01878 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01879 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/25/02 | TTW-01880 | L | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |

**Sampling Locations:**
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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-25-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/27/02 1200 to 2400

**Data Validation Date: 04/01/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/27/02 | TTW-01953 | W | 1404 | Air | 12.74 | 0.003 | 0 | ***1 | 16.00 | 0.0044 |
| 03/27/02 | TTW-01954 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/27/02 | TTW-01955 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01956 | E-Dup | 1584 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0049 |
| 03/27/02 | TTW-01957 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01958 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01959 | V | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/27/02 | TTW-01960 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01961 | K-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01962 | D | 1368 | Air | <7.0 | <0.002 | ****1 | 0 | 16.00 | 0.0045 |
| 03/27/02 | TTW-01963 | C | 1440 | Air | 14.65 | 0.004 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01964 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/27/02 | TTW-01965 | A | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/27/02 | TTW-01966 | F | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | TTW-01967 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/27/02 | TTW-01968 | N | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0043 |
| 03/27/02 | TTW-01969 | M1 | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0040 |

*N0 Sample Submitted for Location L due to the pump being tampered with*

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**Key:**
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**** Tremolite
***** Amosite
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/01/2002**
**Sampling Date and Time:** **3/28/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/28/02 | FB032802 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/28/02 | TB032802 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/28/02 | TTW-01971 | W | 1476 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0042 |
| 03/28/02 | TTW-01972 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/28/02 | TTW-01973 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01974 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01975 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/28/02 | TTW-01976 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01977 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01978 | D | 1476 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0042 |
| 03/28/02 | TTW-01979 | C | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01980 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01981 | A | 1476 | Air | <7.0 | <0.002 | ***2 | 0 | 32.00 | 0.0083 |
| 03/28/02 | TTW-01982 | A-Dup | 1064 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0041 |
| 03/28/02 | TTW-01983 | F | 1278 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 03/28/02 | TTW-01984 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01985 | J-Dup | 1584 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0039 |
| 03/28/02 | TTW-01986 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/28/02 | TTW-01987 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01988 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/02/02**
**Sampling Date and Time:** **3/29/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/29/02 | TTW-02025 | W | 1440 | Air | <7.0 | <0.002 | ***4 | ***2 | 96.00 | 0.0257 |
| 03/29/02 | TTW-02026 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/29/02 | TTW-02027 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02028 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/29/02 | TTW-02029 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02030 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02031 | K | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0043 |
| 03/29/02 | TTW-02032 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02033 | C | 1404 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 03/29/02 | TTW-02034 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02035 | A | 1476 | Air | 7.01 | 0.002 | ***1 | 0 | 16.00 | 0.0042 |
| 03/29/02 | TTW-02036 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02037 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02038 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/29/02 | TTW-02039 | N-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02040 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02041 | M1-Dup | 1324 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/29/02 | TTW-02042 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/02/02**
**Sampling Date and Time:** **3/28/02 1200 to 2359**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/28/02 | TTW-01989 | W | 1368 | Air | 31.85 | 0.009 | 0 | 0 | <16.00 | <0.0045 |
| 03/28/02 | TTW-01990 | Q | 1440 | Air | 8.92 | 0.002 | ***1 | 0 | 16.00 | 0.0043 |
| 03/28/02 | TTW-01991 | Q-Dup | 1440 | Air | 12.1 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01992 | E | 1476 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/28/02 | TTW-01993 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01994 | U | 634 | Air | 12.74 | 0.008 | 0 | 0 | <8.00 | <0.0049 |
| 03/28/02 | TTW-01995 | V | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/28/02 | TTW-01996 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01997 | D | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-01998 | D-Dup | 1296 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/28/02 | TTW-01999 | C | 1440 | Air | 15.29 | 0.004 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-02000 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/28/02 | TTW-02001 | A | 1440 | Air | <7.0 | <0.002 | 0 | ***1 *****1 | 32.00 | 0.0086 |
| 03/28/02 | TTW-02002 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-02003 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/28/02 | TTW-02004 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-02005 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | TTW-02006 | L | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/28/02 0801 to 2239

**Data Validation Date: 04/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/28/02 | LF03716 | P-1 | 1218.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/28/02 | LF03717 | P-2 | 1139.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 01/00/00 | LF03718 | P-3 | 1283.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/28/02 | LF03719 | P-4 | 1155.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/28/02 | LF03720 | P-5 | 1290.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/28/02 | LF03721 | P-6 | 1134.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/28/02 | LF03722 | P-7 | 1280.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/28/02 | LF03723 | P-8 | 1236.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/28/02 | LF03724 | W-12A | 1225.80 | Air | 33.12 | 0.010 | 0 | 0 | <13.12 | <0.0041 |
| 03/28/02 | LF03725 | W-12B | 1161.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/28/02 | LF03726 | B-13 | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/28/02 | LF03727 | B-14 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/28/02 | LF03728 | T-15 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/28/02 | LF03729 | T-16 | 1404.00 | Air | 28.03 | 0.008 | 0 | 0 | <15.75 | <0.0043 |
| 03/28/02 | LF03730 | O-17 | 1229.30 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/28/02 | LF03731 | O-18 | 1177.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/28/02 | LF03732 | O-19 | 1166.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/28/02 | LF03733 | MPHS-20 | 1251.25 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/28/02 | LF03734 | P-1 Dup | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 03/28/02 | LF03735 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/28/02 | LF03736 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 04/02/02**
**Sampling Date and Time: 3/21/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/21/02 | 7093-18-0175 | Park Row | 1204 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/21/02 | 7093-19-0175 | Chambers Street | 1346 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/21/02 | 7093-15-0173 | I.S. 143 Manhattan | 1292 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/21/02 | 7094-09-0163 | P.S. 154 (Bronx) | 1372 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/21/02 | 7096-12-0169 | P.S. 199 (Queens) | 1388 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/21/02 | 7095-98-0169 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/21/02 | 7097-18-0166 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 3/22/02 1200 to 2400**

**Data Validation Date: 4/1/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/22/02 | 7093-18-0176 | Park Row | 1314 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/22/02 | 7093-19-0176 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | 7093-15-0174 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | 7094-09-0164 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | 7096-12-0170 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/22/02 | 7095-98-0170 | P.S. 274 (Brooklyn) | 1274 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/22/02 | 7097-18-0167 | P.S. 44 (S I) | 1700 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0036 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/1/02**
**Sampling Date and Time: 3/23/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/23/02 | 7093-18-0177 | Park Row | 1262 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/23/02 | 7093-19-0177 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | 7093-15-0175 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | 7094-09-0165 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | 7096-12-0171 | P.S. 199 (Queens) | 1258 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0049 |
| 03/23/02 | 7095-98-0171 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/23/02 | 7097-18-0168 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/28/02**
**Sampling Date and Time: 3/17/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/17/02 | 7093-18-0171 | Park Row | 1166 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/17/02 | 7093-19-0171 | Chambers Street | 1388 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/17/02 | 7093-15-0169 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | 7094-09-0159 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | 7096-12-0165 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/17/02 | 7095-98-0165 | P.S. 274 (Brooklyn) | 1366 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/17/02 | 7097-18-0162 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 3/18/02 1200 to 2400**

**Data Validation Date: 3/28/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/18/02 | 7093-18-0172 | Park Row | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/18/02 | 7093-19-0172 | Chambers Street | 1182 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/18/02 | 7093-15-0170 | I.S. 143 Manhattan | 1252 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/18/02 | 7094-09-0160 | P.S. 154 (Bronx) | 1020 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0050 |
| 03/18/02 | 7096-12-0166 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/18/02 | 7095-98-0166 | P.S. 274 (Brooklyn) | 1242 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/18/02 | 7097-18-0163 | P.S. 44 (S I) | 1028 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/30/02**
**Sampling Date and Time:** **3/20/02** **1200 to 2117**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/20/02 | 7094-09-0162 | P.S. 154 (Bronx) | 306 | Air | <7.0 | <0.009 | 0 | 0 | <8.00 | <0.0101 |
| 03/20/02 | 7096-12-0168 | P.S. 199 (Queens) | 1114 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0048 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/30/02**
**Sampling Date and Time: 3/16/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/16/02 | 7093-18-0170 | Park Row | 1214 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/16/02 | 7093-19-0170 | Chambers Street | 1292 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/16/02 | 7093-15-0168 | I.S. 143 Manhattan | 1110 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/16/02 | 7094-09-0158 | P.S. 154 (Bronx) | 1288 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/16/02 | 7096-12-0164 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | 7095-98-0164 | P.S. 274 (Brooklyn) | 1436 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/16/02 | 7097-18-0161 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 3/30/02**
**Sampling Date and Time: 3/19/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/19/02 | 7093-18-0173 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/19/02 | 7093-19-0173 | Chambers Street | 1260 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/19/02 | 7093-15-0171 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/19/02 | 7094-09-0161 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/19/02 | 7096-12-0167 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/19/02 | 7095-98-0167 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/19/02 | 7097-18-0164 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 3, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0644 | 0649 | 0632 |
| Stop Time | 1441 | 1447 | 1429 |
| Run Time (minutes) | 477 | 478 | 477 |
| Maximum Concentration ($ug/m^3$) | 97.15 | 70.32 | 65.30 |
| Average Concentration ($ug/m^3$) | 40.39 | 28.59 | 32.12 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 2, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0646 | 0650 | 0634 |
| Stop Time | 1440 | 1448 | 1435 |
| Run Time (minutes) | 474 | 478 | 479 |
| Maximum Concentration ($ug/m^3$) | 270.59 | 51.34 | 88.84 |
| Average Concentration ($ug/m^3$) | 24.60 | 21.41 | 23.49 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 3, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 694 | 05:47 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 36.4 | 181.8 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 694 | 05:47 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 29.9 | 104.8 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 690 | 05:45 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.6 | 241.6 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 690 | 05:45 | 10 | ---- | ---- | ---- | 0.1 | 23.8 | 107.3 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 345 | 05:45 | 10 | 00:01:00 | 1 | 0.0 | 0.1 | 25.8 | 143.5 |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday-Monday, April 5-8, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:30 p.m. on April 8**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 102 samples taken in and around ground zero on March 25, and from March 29 through April 1. EPA also sampled for asbestos at two additional Lower Manhattan locations on March 24 and 25, and on March 27 and 28. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

One sample, taken on March 30 at Location "W" (Wash Tent Common Area) showed 96 structures per square millimeter. This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,722, with 20 samples above the standard (11 of these were collected prior to September 30; the other nine were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29 and March 30).

**Air Sampling for Particulates** - EPA collected samples on April 4 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). Samples were also collected on April 5 at Locations "N" and "R." All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted from April 4 through April 6 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from April 4 through April 6 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 30. All samples showed results less than the AHERA standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 4 and 6.

**Dust Sampling for Asbestos** - Asbestos was not detected in any of the 6 samples collected on March 25.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on March 24 and 25, and on March 27 and 28, at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn), P.S. 199 (3290 48th St., Queens), and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, April 8, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 24 PM)

Results pending.

NYC / ER (Mar 25, 0823 hrs - Mar 26, 0812 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location V) was not collected due to an equipment malfunction.
Note: except for one sample (Location B) this sampling period represents the evening hours of March 25.

NYC / ER (Mar 29, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location U- duplicate) was not collected due to tampering.

NYC / ER (Mar 30, 0001 - 1200 hrs)

1 of 17 samples analyzed was above the TEM AHERA standard.
1 sample (Location M1) was not collected due to an equipment malfunction.
**Exceedance of the TEM AHERA standard occurred at Location W (96.00 S/mm$^2$).**

NYC / ER (Mar 30, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location Q) was not collected due to an equipment malfunction.

NYC / ER (Mar 31 AM)

Results pending.

NYC / ER (Mar 31, 1200 hrs - Apr 1, 0720 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
Note: except for one sample (Location W) this sampling period represents the evening hours of March 31.

NYC / ER (Apr 1, 0001 - 1200 hrs)

All 16 samples analyzed were below the TEM AHERA standard.
2 samples (Location V and J-duplicate) were not collected due to equipment malfunctions.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Mar 29)

Results pending.

Fresh Kills (Mar 30, 0720 - 2130 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 31)

Sampling was not conducted at the landfill on this day.

Fresh Kills (Apr 4) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Apr 6) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-5, P-6, and P-8) based on daily average concentrations.
Particulate measurements were not taken at P-3 due to an equipment malfunction.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 24 - 25) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 26) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 27 - 28) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 13 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 4) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 5.21 $ug/m^3$ with a maximum reading of 51.39 $ug/m^3$.
Station N had an average of 4.55 $ug/m^3$ with a maximum reading of 33.93 $ug/m^3$.
Station R had an average of 6.80 $ug/m^3$ with a maximum reading of 16.21 $ug/m^3$.

NYC / ER (Apr 5) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations N and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Particulate measurements were not taken at Location L due to an equipment malfunction.
Station N had an average of 7.08 ug/$m^3$ with a maximum reading of 59.83 ug/$m^3$.
Station R had an average of 9.63 ug/$m^3$ with a maximum reading of 17.96 ug/$m^3$.

NYC / ER (Apr 4) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 5) - Volatile Organics (Mobile Laboratory)

Aside from two compounds detected at one location (North Tower), no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 6) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

Fresh Kills (Mar 25) - Asbestos

6 bulk samples collected from the landfill sift and active bank areas, and the barge unloading areas.
Asbestos was not detected in any of the samples.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/01/02**
**Sampling Date and Time:** **3/25/02 0823 to 3/26/2002 0812**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/25/02 | TTW-01881 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01882 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/25/02 | TTW-01883 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01884 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01885 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01886 | U-Dup | 1300 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/25/02 | TTW-01888 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01889 | D | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0043 |
| 03/25/02 | TTW-01890 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/25/02 | TTW-01891 | B | 2858 | Air | <7.0 | <0.001 | 0 | 0 | <20.00 | <0.0027 |
| 03/25/02 | TTW-01892 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01893 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01894 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/25/02 | TTW-01895 | N | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/25/02 | TTW-01896 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/25/02 | TTW-01897 | M1-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | TTW-01898 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample was submitted for Location V due to pump malfunction*
*Please note the sample for Location B was started at 0823 and ran for almost a full 24 hours (23hrs 49 mins)*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/02/2002**
**Sampling Date and Time:** **3/29/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/29/02 | FB032902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/29/02 | TB032902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/29/02 | TTW-02007 | W | 1404 | Air | 34.39 | 0.009 | ***1 | ***1 | 32.00 | 0.0088 |
| 03/29/02 | TTW-02008 | Q | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0040 |
| 03/29/02 | TTW-02009 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02010 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02011 | S-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02012 | U | 1382 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/29/02 | TTW-02014 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02015 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02016 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02017 | C | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/29/02 | TTW-02018 | B | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02019 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02020 | F | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/29/02 | TTW-02021 | J | 1476 | Air | 9.55 | 0.002 | ***1 | 0 | 16.00 | 0.0042 |
| 03/29/02 | TTW-02022 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02023 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | TTW-02024 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample taken for Location U-Dup due to pump being tampered with.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/30/02 0001 to 1200

**Data Validation Date: 04/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/30/02 | FB033002 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/30/02 | TB033002 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/30/02 | TTW-02043 | W | 1440 | Air | 8.92 | 0.002 | ***5 | ***1 | 96 | 0.0257 |
| 03/30/02 | TTW-02044 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02045 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02046 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/30/02 | TTW-02047 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02048 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02049 | V-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02050 | K | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/30/02 | TTW-02051 | K- Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02052 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02053 | C | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/30/02 | TTW-02054 | B | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0040 |
| 03/30/02 | TTW-02055 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02056 | F | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/30/02 | TTW-02057 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02058 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02060 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample taken for Location M1 due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/03/02**
**Sampling Date and Time:** **3/30/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/30/02 | TTW-02061 | W | 1476 | Air | <7.0 | <0.002 | ***3 | 0 | 48.00 | 0.0125 |
| 03/30/02 | TTW-02063 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02064 | E-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02065 | S | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/30/02 | TTW-02066 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02067 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02068 | K | 1170 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/30/02 | TTW-02069 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02070 | C | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/30/02 | TTW-02071 | B | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02072 | B-Dup | 1440 | Air | <7.0 | <0.002 | ***2 | 0 | 32.00 | 0.0086 |
| 03/30/02 | TTW-02073 | A | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16.00 | 0.0043 |
| 03/30/02 | TTW-02074 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02075 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | TTW-02076 | N | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/30/02 | TTW-02077 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/30/02 | TTW-02078 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample submitted for Location Q due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-30-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/04/02**
**Sampling Date and Time:** **3/31/02 1200 to 04/01/2002 0720**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/31/02 | TTW-02097 | W | 2320 | Air | 7.64 | 0.001 | 0 | 0 | <20.00 | <0.0033 |
| 03/31/02 | TTW-02098 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02099 | Q-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02100 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02101 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02102 | S-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02103 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02104 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/31/02 | TTW-02105 | K | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02106 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/31/02 | TTW-02107 | C | 1404 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02108 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02109 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02110 | F | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02111 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02112 | N | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/31/02 | TTW-02113 | M1 | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 03/31/02 | TTW-02114 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*Please note that Sample for Location W ran 19 1/2 hours.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-31-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/04/2002**
**Sampling Date and Time:** **4/1/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/01/02 | FB040102 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/01/02 | TB040102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/01/02 | TTW-02115 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/01/02 | TTW-02116 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02117 | E-Dup | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/01/02 | TTW-02118 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02119 | U | 1228.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 04/01/02 | TTW-02121 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02122 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02123 | C | 1368 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/01/02 | TTW-02124 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02125 | A | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/01/02 | TTW-02126 | F | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/01/02 | TTW-02127 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02129 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02130 | M1 | 1352 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/01/02 | TTW-02131 | L | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/01/02 | TTW-02132 | W | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |

*No Sample submitted for Location V and location J-Dup due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct).
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/30/02 0720 to 2130

**Data Validation Date: 04/04/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/30/02 | LF03758 | P-1 | 1116.00 | Air | <7.0 | <0.002 | 0 | ***1 | 13.12 | 0.0045 |
| 03/30/02 | LF03759 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/30/02 | LF03760 | P-3 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/30/02 | LF03761 | P-3 Dup | 1296.00 | Air | 7.64 | 0.002 | ***1 | 0 | 15.75 | 0.0047 |
| 03/30/02 | LF03762 | P-4 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/30/02 | LF03763 | P-5 | 1123.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/30/02 | LF03764 | P-6 | 1247.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 03/30/02 | LF03765 | P-7 | 1283.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/30/02 | LF03766 | P-8 | 1103.30 | Air | 11.46 | 0.004 | 0 | 0 | <13.12 | <0.0046 |
| 03/30/02 | LF03767 | W-12A | 1296.00 | Air | 28.03 | 0.008 | ***1 | 0 | 15.75 | 0.0047 |
| 03/30/02 | LF03768 | W-12B | 869.40 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0050 |
| 03/30/02 | LF03769 | B-13 | 1198.80 | Air | 7.64 | 0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/30/02 | LF03770 | B-14 | 1200.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/30/02 | LF03771 | T-15 | 1296.00 | Air | 8.92 | 0.003 | 0 | 0 | <15.75 | <0.0047 |
| 03/30/02 | LF03772 | T-16 | 1224.00 | Air | 59.87 | 0.019 | ***1 | 0 | 15.75 | 0.0050 |
| 03/30/02 | LF03773 | O-17 | 1130.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/30/02 | LF03774 | O-18 | 32.40 | Air | <7.0 | <0.083 | 0 | 0 | <7.87 | <0.0936 |
| 03/30/02 | LF03775 | O-19 | 1222.20 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/30/02 | LF03776 | MPHS-20 | 1368.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/30/02 | LF03777 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 03/30/02 | LF03778 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-03-30-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/3/02**
**Sampling Date and Time:** **3/24/02** **1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/24/02 | 7093-18-0178 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | 7093-19-0178 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | 7093-15-0176 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | 7094-09-0166 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | 7096-12-0172 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | 7095-98-0172 | P.S. 274 (Brooklyn) | 1142 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/24/02 | 7097-18-0169 | P.S. 44 (S I) | 1272 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/3/02**
**Sampling Date and Time: 3/25/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S~f/cc** |
| 03/25/02 | 7093-18-0179 | Park Row | 1310 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/25/02 | 7093-19-0179 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | 7093-15-0177 | I.S. 143 Manhattan | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/25/02 | 7094-09-0167 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | 7096-12-0173 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | 7095-98-0173 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/25/02 | 7097-18-0170 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 3/27/02 1200 to 2400**

**Data Validation Date: 4/5/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 03/27/02 | 7093-18-0181 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | 7093-19-0181 | Chambers Street | 1180 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/27/02 | 7093-15-0179 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | 7096-12-0175 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/27/02 | 7095-98-0175 | P.S. 274 (Brooklyn) | 1358 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/27/02 | 7097-18-0172 | P.S. 44 (S I) | 1342 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

*No Sample submitted for Location P.S. 154 due to "No Access". Sample was not able to be collected*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/5/02**
**Sampling Date and Time: 3/28/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/28/02 | 7093-18-0182 | Park Row | 1188 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/28/02 | 7093-19-0182 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | 7093-15-0180 | I.S. 143 Manhattan | 1250 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/27/02 | 7094-09-0169 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | 7096-12-0176 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/28/02 | 7095-98-0176 | P.S. 274 (Brooklyn) | 1136 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/28/02 | 7097-18-0173 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*Sample # 7094-09-0169 was sampled on March 27th, however was included in this package due to the fact that it was not accessible on the March 28th collection*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC Landfill**
**Sampling Date :** 3/25/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 03/25/02 | 0616 | B-14 | Soil | None | 10.0% Min.Wool | 75.00% Non-Fibrous (Other) |
| | | | | | 15.0% Cellulose | |
| 03/25/02 | 0617 | B-14 | Soil | None | 10.0% Min.Wool | 80.00% Non-Fibrous (Other) |
| | | | | | 10.0% Cellulose | |
| 03/25/02 | 0618 | B-13 | Soil | None | 5.0% Min.Wool | 80.00% Non-Fibrous (Other) |
| | | | | | 15.0% Cellulose | |
| 03/25/02 | 0619 | B-13 | Soil | None | 10.0% Min.Wool | 80.00% Non-Fibrous (Other) |
| | | | | | 10.0% Cellulose | |
| 03/25/02 | 0620 | Sifter # 2 | Soil | None | 10.0% Min.Wool | 75.00% Non-Fibrous (Other) |
| | | | | | 15.0% Cellulose | |
| 03/25/02 | 0621 | South Active Bank | Soil | None | 10.0% Min.Wool | 75.00% Non-Fibrous (Other) |
| | | | | | 15.0% Cellulose | |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 4, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.7 | 244.9 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 906 | 07:33 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 11.1 | 933.0 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 912 | 07:36 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 8.1 | 896.4 |
| 6 | 74.207406 | 40.563818 | D088 | 1 | 920 | 07:40 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 16.5 | 1517.0 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D065 | 1 | 928 | 07:44 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 12.3 | 838.4 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 6, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D088 | 1 | 960 | 08:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 28.3 | 632.0 |
| 3 | 74.198685 | 40.570054 | D074 | 1 | ---- | ---- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D075 | 1 | 942 | 07:51 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.9 | 446.2 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 940 | 07:50 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.0 | 589.1 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D089 | 1 | 941 | 07:51 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.6 | 519.6 |

***Note: Due to instrument malfunction no data was logged at perimeter location 3.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 4, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D076 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0640 | 0645 | 0628 |
| **Stop Time** | 1446 | 1450 | 1434 |
| **Run Time (minutes)** | 486 | 485 | 486 |
| **Maximum Concentration ($ug/m^3$)** | 51.39 | 33.93 | 16.21 |
| **Average Concentration ($ug/m^3$)** | 5.21 | 4.55 | 6.80 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 5, 2002

| Location | L* | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | - | 2.0 | 2.0 |
| Start Time | - | 0641 | 0624 |
| Stop Time | - | 1436 | 1420 |
| Run Time (minutes) | - | 475 | 476 |
| Maximum Concentration ($ug/m^3$) | - | 59.83 | 17.96 |
| Average Concentration ($ug/m^3$) | - | 7.08 | 9.63 |

* equipment malfunction

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/05/02**

| File Name | NYC1474 | NYC1475 | NYC1476 | NYC1477 | NYC1479 | NYC1478 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07687 | A07688 | A07689 | A07690 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/05/02**

| File Name | NYC1466 | NYC1467 | NYC1468 | NYC1469 | NYC1471 | NYC1470 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07683 | A07684 | A07685 | A07686 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | 43 | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 41 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Tuesday, April 9, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:45 p.m. on April 9**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 17 samples taken in and around ground zero on March 31. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,739, with 20 samples above the standard (11 of these were collected prior to September 30; the other nine were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29 and March 30).

**Air Sampling for Particulates** - EPA collected samples on April 6 and April 8 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 7 and April 8 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 7 and April 8 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOC's, or the levels of VOC's did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 19 samples were collected on March 29. All samples showed results less than the AHERA standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 8.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, April 9, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 24 PM)

Results pending.

NYC / ER (Mar 31, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location Q) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Mar 29, 0735 - 2045 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 8) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 26) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 6) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 10.94 ug/m$^3$ with a maximum reading of 107.10 ug/m$^3$.
Station N had an average of 9.32 ug/m$^3$ with a maximum reading of 101.00 ug/m$^3$.
Station R had an average of 12.48 ug/m$^3$ with a maximum reading of 938.79 ug/m$^3$.

NYC / ER (Apr 8) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 44.27 ug/m$^3$ with a maximum reading of 429.42 ug/m$^3$.
Station N had an average of 28.69 ug/m$^3$ with a maximum reading of 52.81 ug/m$^3$.
Station R had an average of 33.92 ug/m$^3$ with a maximum reading of 174.03 ug/m$^3$.

NYC / ER (Apr 7) - Volatile Organics (Mobile Laboratory)

Aside from one compound detected at one location (South Tower), no other volatile organic compounds were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 8) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 3/29/02 0735 to 2045**

**Data Validation Date: 04/02/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/29/02 | LF03737 | P-1 | 1164.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/29/02 | LF03738 | P-2 | 1069.30 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/29/02 | LF03739 | P-3 | 1209.60 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/29/02 | LF03740 | P-4 | 1198.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/29/02 | LF03741 | P-5 | 1222.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/29/02 | LF03742 | P-6 | 1193.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/29/02 | LF03743 | P-7 | 1183.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/29/02 | LF03744 | P-8 | 1276.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 03/29/02 | LF03745 | W-12A | 1358.50 | Air | <7.0 | <0.002 | 0 | *****2 | 31.5 | 0.0089 |
| 03/29/02 | LF03746 | W-12B | 1112.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/29/02 | LF03747 | B-13 | 1224.00 | Air | <7.0 | <0.002 | 0 | ***1 | 13.12 | 0.0041 |
| 03/29/02 | LF03748 | B-14 | 1193.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/29/02 | LF03749 | T-15 | 1296.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0039 |
| 03/29/02 | LF03750 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/29/02 | LF03751 | O-17 | 1113.70 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 03/29/02 | LF03752 | O-18 | 1053.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 03/29/02 | LF03753 | O-19 | 1024.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0042 |
| 03/29/02 | LF03754 | MPHS-20 | 1235.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 03/29/02 | LF03755 | P-2 Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 03/29/02 | LF03756 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/29/02 | LF03757 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 3/31/02 0001 to 1200

**Data Validation Date: 04/04/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 03/31/02 | FB033102 | Field Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 03/31/02 | TB033102 | Trip Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 03/31/02 | TTW-02079 | W | 1404 | Air | <7.0 | <0.002 | ***2 | *****1 | 48 | 0.0132 |
| 03/31/02 | TTW-02081 | E | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/31/02 | TTW-02082 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02083 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02084 | V | 1350 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 03/31/02 | TTW-02085 | K | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | TTW-02086 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02087 | C | 1287 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/31/02 | TTW-02088 | B | 1244.5 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 03/31/02 | TTW-02089 | A | 1300 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 03/31/02 | TTW-02090 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02091 | F-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02092 | J | 1206.5 | Air | 7.01 | 0.002 | 0 | 0 | <13.33 | <0.0043 |
| 03/31/02 | TTW-02093 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02094 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02095 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | TTW-02096 | L-Dup | 1216 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0051 |

*No Sample Submitted for Location Q due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[(1)] - Not analyzed due to overloading of particulates
NA[(2)] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 8, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 567 | 04:44 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 49.3 | 492.8 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 565 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 41.2 | 1847.2 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 565 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 28.0 | 191.5 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 566 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 31.9 | 406.5 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 564 | 04:42 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.2 | 181.9 |

Note: Due to afternoon showers DataRams did not run for the full shift.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 8, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0644 | 0650 | 0631 |
| Stop Time | 1449 | 1451 | 1436 |
| Run Time (minutes) | 485 | 481 | 485 |
| Maximum Concentration ($ug/m^3$) | 429.42 | 52.81 | 174.03 |
| Average Concentration ($ug/m^3$) | 44.27 | 28.69 | 33.92 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 6, 2002

| Location | L | N | R |
|---|---|---|---|
| **DataRAM I.D. No.** | D080 | D081 | D076 |
| **Flow Rate (liters/minute)** | 2.0 | 2.0 | 2.0 |
| **Start Time** | 0629 | 0640 | 0623 |
| **Stop Time** | 1430 | 1441 | 1424 |
| **Run Time (minutes)** | 481 | 481 | 481 |
| **Maximum Concentration ($ug/m^3$)** | 107.10 | 101.00 | 938.79 |
| **Average Concentration ($ug/m^3$)** | 10.94 | 9.32 | 12.48 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/08/02**

| File Name | NYC1490 | NYC1491 | NYC1492 | NYC1493 | NYC1495 | NYC1494 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07695 | A07696 | A07697 | A07698 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/07/02**

| File Name | NYC1482 | NYC1483 | NYC1484 | NYC1485 | NYC1487 | NYC1486 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A007691 | A007692 | A007693 | A007694 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | 73 |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Wednesday, April 10, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 3:45 p.m. on April 10**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 67 samples taken in and around ground zero on March 24, April 1 and April 2. All but one sample showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

One sample, taken on April 2 at Location "W" (Wash Tent Common Area) showed 80 structures per square millimeter, which exceeds the AHERA standard. This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,806, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Particulates** - EPA collected samples on April 9 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Metals** - Ten samples were collected on February 5 at various locations in Lower Manhattan. One sample, collected at Location "A" (northeast corner of West Broadway and Barclay Street), showed 0.048 micrograms per cubic meter ($ug/m^3$) of arsenic, which nominally exceeds EPA's Removal Action level guideline of 0.041 $ug/m^3$, based on a 30-year exposure. However, the sample was below the EPA Removal Action level guideline adjusted to 1-year exposure, as well as the NIOSH REL (2 $ug/m^3$), and the OSHA PEL (10 $ug/m^3$). Metals in all other samples were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 9 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are

snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 9 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOC's.

**Staten Island Landfill**:

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 5 and April 9.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, April 10, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9 AM)

Results pending.

NYC / ER (Mar 24, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 1, 1200 - 2400 hrs)

All 14 samples analyzed were below the TEM AHERA standard.
4 samples (Locations U, V, V-duplicate, and D) were not collected due to equipment malfunctions.

NYC / ER (Apr 2, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location S) was not collected since the cassette was stolen.

NYC / ER (Apr 2, 1200 - 2400 hrs)

1 of 18 samples analyzed was above the TEM AHERA standard.
**Exceedance of the TEM AHERA standard occurred at Location W (80 S/mm$^2$).**

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24)

Results pending.

Fresh Kills (Apr 5) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-6, and P-8) based on daily average concentrations.
Particulate measurements at P-5 were not reportable due to an equipment malfunction.

Fresh Kills (Apr 8) - Particulate Monitoring (Dataram)

Resubmittal: Incorrect logging period was previously presented for Location P-8.
No change in results at the five stations (P-2, P-3, P-5, P-6, and P-8).

Fresh Kills (Apr 9) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Feb 5) - Metals

10 samples collected.
**Arsenic nominally exceeded the EPA Removal Action level guidelines (based on a 30-year exposure) at Location A.** Note: RAL for arsenic is 0.041 ug/$m^3$. The arsenic concentration at Location A was below the EPA Removal Action level guidelines adjusted to 1-year exposure, the NIOSH REL (2 ug/$m^3$), and the OSHA PEL (10 ug/$m^3$).
All other metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 26) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 9) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 25.97 ug/$m^3$ with a maximum reading of 227.01 ug/$m^3$.
Station N had an average of 25.35 ug/$m^3$ with a maximum reading of 73.99 ug/$m^3$.
Station R had an average of 26.93 ug/$m^3$ with a maximum reading of 46.12 ug/$m^3$.

NYC / ER (Apr 9) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/09/02**
**Sampling Date and Time:** 3/24/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/24/02 | TTW-01845 | W | 1440 | Air | <7.0 | <0.002 | NA (1) | NA (1) | NA (1) | NA (1) |
| 03/24/02 | TTW-01846 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01847 | E | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/24/02 | TTW-01848 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/24/02 | TTW-01849 | S-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01850 | U | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01851 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/24/02 | TTW-01852 | K | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/24/02 | TTW-01853 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01854 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01855 | B | 1476 | Air | 7.64 | 0.002 | ***1 | 0 | 16.00 | 0.0042 |
| 03/24/02 | TTW-01856 | A | 1416 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/24/02 | TTW-01857 | F | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 03/24/02 | TTW-01858 | F-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01859 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01860 | N | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/24/02 | TTW-01861 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/24/02 | TTW-01862 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-24-02-pm.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/06/02**
**Sampling Date and Time:** **4/1/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/01/02 | TTW-02133 | W | 1476 | Air | 15.29 | 0.004 | 0 | 0 | <16.00 | <0.0042 |
| 04/01/02 | TTW-02134 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02135 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02136 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/01/02 | TTW-02140 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02142 | C | 1440 | Air | NA(1) | NA(1) | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02143 | B | 390 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0079 |
| 04/01/02 | TTW-02144 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02145 | A-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02146 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02147 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02148 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | TTW-02149 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/01/02 | TTW-02150 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample Submitted for Location U, V, V-Dup, and D due to pump malfunction*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/07/2002**
**Sampling Date and Time:** **4/2/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/02/02 | FB040202 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/02/02 | TB040202 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/02/02 | TTW-02151 | W | 1440 | Air | 10.19 | 0.003 | ***1 ******1 | 0 | 32 | 0.0086 |
| 04/02/02 | TTW-02152 | Q | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/02/02 | TTW-02153 | E | 1175.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/02/02 | TTW-02155 | S-Dup | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/02/02 | TTW-02156 | U | 1375.55 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/02/02 | TTW-02157 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02158 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02159 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02160 | C | 1404 | Air | NA(1) | NA(1) | 0 | 0 | <16.00 | <0.0044 |
| 04/02/02 | TTW-02161 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/02/02 | TTW-02162 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02163 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02164 | J | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/02/02 | TTW-02165 | N | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/02/02 | TTW-02166 | N-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02167 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/02/02 | TTW-02168 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample submitted for Location S due to cassette missing*

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K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
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M1 : West St. - 50 yards south of Harrison St. at bulkhead
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NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/06/02**
**Sampling Date and Time: 4/2/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/02/02 | TTW-02169 | W | 1440 | Air | 10.83 | 0.003 | ***5 | 0 | 80 | 0.0214 |
| 04/02/02 | TTW-02170 | Q | 1368 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/02/02 | TTW-02171 | E | 1134 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 04/02/02 | TTW-02172 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02173 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/02/02 | TTW-02174 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02175 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02176 | K-Dup | 1328 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/02/02 | TTW-02177 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02178 | C | 1512 | Air | 9.55 | 0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/02/02 | TTW-02179 | B | 1512 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0041 |
| 04/02/02 | TTW-02180 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02181 | F | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/02/02 | TTW-02182 | F-Dup | 1182 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 04/02/02 | TTW-02183 | J | 1088 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 04/02/02 | TTW-02184 | N | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/02/02 | TTW-02185 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | TTW-02186 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 08532 | | 08532 | | 08532 | | 08531 | | 08521 | | 08522 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 3620 | | 3771.5 | |
| Date Collected | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.60 | U | 0.60 | U | 0.60 | U | 0.60 | 0.45 | 0.17 | 3.8 | 0.16 |
| Antimony | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.021 | U | 0.020 |
| Arsenic | AA-Fur | U | 0.033 | U | 0.033 | U | 0.033 | U | 0.033 | U | 0.009 | 0.048 J | 0.009 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.087 | U | 0.084 |
| Beryllium | ICAP | U | 0.050 | U | 0.050 | U | 0.050 | U | 0.050 | U | 0.014 | U | 0.013 |
| Cadmium | ICAP | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.004 | U | 0.004 |
| Calcium | ICAP | 3.6 | 3.5 | U | 3.5 | 3.9 | 3.5 | U | 3.5 | U | 0.97 | 27 | 0.93 |
| Chromium | ICAP | 0.74 | 0.042 | 0.73 | 0.042 | 0.97 | 0.042 | 0.012 | 0.042 | 0.026 | 0.012 | 0.067 | 0.011 |
| Cobalt | ICAP | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.009 | 0.009 | 0.009 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U J | 0.44 | U J | 0.12 | U J | 0.12 |
| Iron | ICAP | U | 0.90 | 0.92 | 0.90 | U | 0.90 | U | 0.90 | 0.85 J | 0.23 | 8.1 J | 0.24 |
| Lead | AA-Fur | U | 0.010 | 0.11 | 0.010 | U | 0.010 | U J | 0.010 | U J | 0.003 | 0.14 J | 0.003 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U | 0.92 | 5.3 | 0.87 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.022 | 0.18 | 0.021 |
| Nickel | ICAP | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.016 | U | 0.015 |
| Potassium | ICAP | 11 | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 1.0 | U | 0.97 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.021 | U | 0.020 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U J | 0.025 | U J | 0.007 | U J | 0.007 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | 8.5 J | 3.7 | U J | 1.0 | U J | 0.98 |
| Thallium | AA-Fur | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.035 | U | 0.010 | U | 0.009 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.037 | U | 0.010 | U | 0.010 |
| Zinc | ICAP | U | 0.079 | U | 0.079 | U | 0.079 | U J | 0.079 | U J | 0.022 | U J | 0.021 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 08523 | | 08524 | | 08525 | | 08526 | | 08527 | | 08528 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | LOC 8 CHURCH & DEY ST | | C-LIBERTY & CHURCH ST. | | D-GREENWICH & ALBANY ST. | | S-RECTOR PLACE& SOUTH END AVE | | S-RECTOR PLACE& SOUTH END AVE | |
| Air Volume (L) | | 4550.5 | | 3800 | | 4208.5 | | 4030 | | 2925 | | 1935 | |
| Date Collected | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | | 02/05/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | tCAP | 1.9 | 0.13 | 2.2 | 0.16 | 3.7 | 0.14 | 0.83 | 0.15 | 0.41 | 0.21 | 0.33 | 0.31 |
| Antimony | AA-Fur | U | 0.016 | U | 0.020 | U | 0.018 | U | 0.019 | U | 0.026 | U | 0.039 |
| Arsenic | AA-Fur | U | 0.007 | U | 0.009 | U | 0.008 | U | 0.008 | U | 0.011 | U | 0.017 |
| Barium | tCAP | U | 0.069 | U | 0.083 | U | 0.075 | U | 0.078 | U | 0.11 | U | 0.16 |
| Beryllium | tCAP | U | 0.011 | U | 0.013 | U | 0.012 | U | 0.012 | U | 0.017 | U | 0.026 |
| Cadmium | tCAP | U | 0.004 | U | 0.004 | U | 0.004 | U | 0.004 | U | 0.006 | U | 0.008 |
| Calcium | tCAP | 19 | 0.77 | 19 | 0.92 | 31 | 0.83 | 6.9 | 0.87 | U | 1.2 | U | 1.8 |
| Chromium | tCAP | 0.021 | 0.009 | U | 0.011 | U | 0.056 | 0.028 | 0.010 | 0.028 | 0.014 | 0.086 | 0.021 |
| Cobalt | tCAP | 0.008 | 0.001 | 0.009 | 0.008 | 0.012 | 0.008 | U | 0.008 | U | 0.012 | U | 0.017 |
| Copper | tCAP | 0.1 J | 0.019 | U J | 0.12 | U J | 0.11 | U J | 0.11 | U J | 0.15 | U J | 0.23 |
| Iron | tCAP | 4.4 J | 0.038 | 4.4 J | 0.24 | 8.1 J | 0.21 | 2.9 J | 0.22 | 0.72 J | 0.31 | 0.54 J | 0.47 |
| Lead | AA-Fur | 0.062 J | 0.002 | 0.030 J | 0.003 | 0.058 J | 0.002 | 0.016 J | 0.002 | U J | 0.003 | U J | 0.005 |
| Magnesium | tCAP | 2.8 | 0.14 | 3.9 | 0.87 | 6.2 | 0.78 | 1.0 | 0.82 | U | 1.1 | U | 1.7 |
| Manganese | tCAP | 0.11 | 0.003 | 0.084 | 0.021 | 0.15 | 0.019 | 0.037 | 0.019 | U | 0.026 | U | 0.040 |
| Nickel | tCAP | U | 0.013 | U | 0.015 | U | 0.014 | U | 0.014 | U | 0.020 | U | 0.031 |
| Potassium | tCAP | U | 0.81 | U | 0.97 | U | 0.87 | U | 0.91 | U | 1.3 | U | 1.9 |
| Selenium | tCAP | U | 0.016 | U | 0.020 | U | 0.018 | U | 0.019 | U | 0.026 | U | 0.039 |
| Silver | tCAP | U J | 0.005 | U J | 0.007 | U J | 0.006 | 0.008 J | 0.006 | 0.014 J | 0.009 | U J | 0.013 |
| Sodium | tCAP | U J | 0.81 | 15 J | 0.97 | 19 J | 0.87 | U J | 0.91 | U J | 1.3 | U J | 1.9 |
| Thallium | AA-Fur | U | 0.008 | U | 0.009 | U | 0.008 | U | 0.009 | U | 0.012 | U | 0.018 |
| Vanadium | tCAP | U | 0.009 | U | 0.011 | U | 0.009 | U | 0.009 | U | 0.013 | U | 0.019 |
| Zinc | tCAP | U J | 0.017 | U J | 0.021 | U J | 0.019 | U J | 0.020 | U J | 0.027 | U J | 0.041 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 08529 | | 08530 | |
|---|---|---|---|---|---|
| Location | | P-ALBANY ST. & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 2926 | | 1461.25 | |
| Date Collected | | 02/05/02 | | 02/05/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.7 | 0.21 | 1.8 | 0.41 |
| Antimony | AA-Fur | U | 0.026 | U | 0.051 |
| Arsenic | AA-Fur | U | 0.011 | U | 0.022 |
| Barium | ICAP | U | 0.11 | U | 0.22 |
| Beryllium | ICAP | U | 0.017 | U | 0.034 |
| Cadmium | ICAP | U | 0.006 | U | 0.011 |
| Calcium | ICAP | 11 | 1.2 | 6.6 | 2.4 |
| Chromium | ICAP | 0.023 | 0.014 | U | 0.029 |
| Cobalt | ICAP | U | 0.012 | U | 0.023 |
| Copper | ICAP | U J | 0.15 | U J | 0.30 |
| Iron | ICAP | 5.4 J | 0.31 | 4.3 J | 0.62 |
| Lead | AA-Fur | 0.050 J | 0.003 | U J | 0.007 |
| Magnesium | ICAP | 3.1 | 1.1 | U | 2.3 |
| Manganese | ICAP | 0.070 | 0.027 | 0.062 | 0.053 |
| Nickel | ICAP | U | 0.020 | U | 0.040 |
| Potassium | ICAP | U | 1.3 | U | 2.5 |
| Selenium | AA-Fur | U | 0.026 | U | 0.051 |
| Silver | ICAP | U J | 0.009 | U J | 0.017 |
| Sodium | ICAP | 51 J | 1.3 | U J | 2.50 |
| Thallium | AA-Fur | U | 0.012 | U | 0.024 |
| Vanadium | ICAP | U | 0.013 | U | 0.025 |
| Zinc | ICAP | U J | 0.027 | U J | 0.054 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 5, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 916 | 07:38 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.5 | 560.7 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 914 | 07:37 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 1.2 | 412.7 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | ---- | ------ | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 6 | 74.207406 | 40.563818 | D088 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 9.5 | 429.2 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D065 | 1 | 903 | 07:32 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 0.96 | 385.5 |

Note: DataRam D074 located at perimeter location 5 malfunctioned. Logged data was invalid and therefore is not reportable.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 9, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 939 | 07:50 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 132.52 | 3048.7 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 938 | 07:49 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 54.3 | 959.5 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 936 | 07:48 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 17.2 | 1255.7 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 937 | 07:49 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 21.8 | 777.3 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 936 | 07:48 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 7.3 | 3851.5 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 8, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 567 | 04:44 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 49.3 | 192.8 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 565 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 41.2 | 1847.2 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 565 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 28.0 | 191.5 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 566 | 04:43 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 31.9 | 406.5 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 564 | 04:42 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 25.2 | 181.9 |

Note: Due to afternoon showers DataRams did not run for the full shift.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 9, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0618 | 0621 | 0616 |
| Stop Time | 1429 | 1427 | 1431 |
| Run Time (minutes) | 491 | 486 | 495 |
| Maximum Concentration ($ug/m^3$) | 227.01 | 73.99 | 46.12 |
| Average Concentration ($ug/m^3$) | 25.97 | 25.35 | 26.93 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/09/02**

| File Name | NYC1498 | NYC1499 | NYC1500 | NYC1501 | NYC1503 | NYC1502 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07699 | A07700 | A07701 | A07702 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| O-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S Environmental Protection Agency (EPA)
## Daily Summary
## Thursday, April 11, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 11:00 a.m. on April 12**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 123 samples taken in and around ground zero on March 9, and from April 3 through April 6. EPA also sampled for asbestos at two additional lower Manhattan locations from March 29 through April 2. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 7,939, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Particulates** - EPA collected samples on April 10 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Dioxin** - A total of 20 samples were collected on March 19 and March 21 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Air Sampling for Silicates** - A total of 30 samples were collected on March 21, March 26, and March 28 at several locations in Lower Manhattan. Silicates were wither not detected, or were below the NIOSH Recommended Exposure Limit (REL) time-weighted average of 0.05 $mg/m^3$.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 10 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are

snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 10 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas showed no detectable levels of VOC's.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 113 samples were collected on March 24, and from April1 through April 5. A sample taken on April 3 at a barge loading area (Location "B-14") showed 91.86 structures per square millimeter, which exceeds the AHERA school re-entry standard. All other samples were below the school re-entry standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 10.

**Air Sampling for Metals** - A total of 10 samples were collected on March 15 and March 21 Metals in all samples were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on March 26, and from March 29 through April 2 at Intermediate School 143 (511 W. 182nd St., Manhattan) and Public School 199 (3290 48th St., Queens). Samples were also collected on March 26, March 29, April 1, and April 2 at P.S. 154 (333 East 135th St., Bronx). Samples were also collected from March 29 through April 2 at P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, April 11, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Mar 9, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

NYC / ER (Apr 3, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not collected due to an equipment malfunction.

NYC / ER (Apr 4, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location C) was not collected due to an equipment malfunction.

NYC / ER (Apr 4, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 5, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 5, 1200 hrs - Apr 6, 0745 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
Note: except for one sample (Location S) this sampling period represents the afternoon/evening hours of April 5.

NYC / ER (Apr 6, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location M1-duplicate) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Mar 24, 0735 - 2138 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 1, 0700 - 2041 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 2, 0756 - 2208 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 3, 0751 - 2052 hrs)

1 of 19 samples analyzed was above the TEM AHERA standard.
**Exceedance of the TEM AHERA standard occurred at Location B-14 (91.86 S/mm$^2$).**

Fresh Kills (Apr 4, 0820 hrs - Apr 5, 0653 hrs)

All 18 samples analyzed were below the TEM AHERA standard.
1 sample (Location W-12B) was not collected due to an equipment malfunction.
Note: except for one sample (Location P-6) this sampling period represents April 4.

Fresh Kills (Apr 5, 0743 - 2212 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Mar 15) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

Fresh Kills (Mar 21) - Metals

5 samples collected.
All metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of chromium identified in the quality control (QC) samples (blanks) indicate that chromium is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

Fresh Kills (Apr 10) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (March 19) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (March 21) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 25) - Metals

Resubmittal: of analytical results for January 25 (previously reported in the March 14 Sampling Situation Report).
All metals remain as either not detected or below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Previously noted that elevated levels of lead identified in the quality control (QC) samples (blanks) indicate that lead is not present in the sample collected at Location S at levels sufficiently above those in the control samples to be considered a valid result. **The lead results for Location S were revised to nondetect, therefore the previous statement is no longer relevant.**

NYC / ER (Mar 21) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Mar 26) - Silicates

All 10 samples either did not detect any silicates or were below the NIOSH Recommended Exposure Limit (REL) TWA of 0.05 $mg/m^3$.

NYC / ER (Mar 28) - Silicates

All 10 samples either did not detect any silicates or were below the NIOSH Recommended Exposure Limit (REL) TWA of 0.05 $mg/m^3$.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Mar 26) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 3 samples were collected from these monitoring sites.
4 samples (Sites 1, 2, 7, and 8) were not analyzed due to equipment malfunctions.
All of the samples were below the TEM AHERA standard.

NYC / ER (Mar 29 - Apr 2) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 33 samples were collected from these monitoring sites.
2 samples (Site 5) were not collected on March 30 and March 31 due to access problems.
All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 10) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 19.82 $ug/m^3$ with a maximum reading of 38.83 $ug/m^3$.
Station N had an average of 17.56 $ug/m^3$ with a maximum reading of 39.82 $ug/m^3$.
Station R had an average of 19.75 $ug/m^3$ with a maximum reading of 40.59 $ug/m^3$.

NYC / ER (Apr 10) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 03/26/2002**
**Sampling Date and Time:** 3/9/02 0001 to 1200

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/09/02 | FB030902 | Field Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 03/09/02 | TB030902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 03/09/02 | TTW-01298 | E | 1179 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/09/02 | TTW-01299 | S | 1258.25 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 03/09/02 | TTW-01300 | U | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 03/09/02 | TTW-01301 | V | 1215 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/09/02 | TTW-01302 | K | 1230.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/09/02 | TTW-01303 | D | 1126.65 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/09/02 | TTW-01304 | C | 1126.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/09/02 | TTW-01305 | B | 965.7 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0046 |
| 03/09/02 | TTW-01306 | A | 1245.6 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0041 |
| 03/09/02 | TTW-01307 | F | 1278 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/09/02 | TTW-01308 | Q | 1584 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0039 |
| 03/09/02 | TTW-01309 | J | 1111.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 03/09/02 | TTW-01310 | J-Dup | 1128.6 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 03/09/02 | TTW-01311 | N | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/09/02 | TTW-01312 | M1 | 1161 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/09/02 | TTW-01313 | L | 1212.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 03/09/02 | TTW-01314 | L-Dup | 1159.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 03/09/02 | TTW-01315 | W | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-03-09-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/09/2002**
**Sampling Date and Time:** **4/4/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S--f/cc** |
| 04/04/02 | FB040402 | Field Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[1] | NA[1] | NA[1] |
| 04/04/02 | TB040402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[1] | NA[1] | NA[1] |
| 04/04/02 | TTW-02223 | W | 1440 | Air | 17.83 | 0.005 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02224 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02225 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02226 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02227 | U | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/04/02 | TTW-02228 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02229 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02230 | D | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/04/02 | TTW-02232 | C-Dup | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/04/02 | TTW-02233 | B | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/04/02 | TTW-02234 | A | 1200 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 04/04/02 | TTW-02235 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02236 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02237 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02238 | N-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/04/02 | TTW-02239 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02240 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample submitted for Location C due to flow fault*

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E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
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S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/09/02**
**Sampling Date and Time:** **4/4/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/04/02 | TTW-02241 | W | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02242 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02243 | Q-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/04/02 | TTW-02244 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02245 | E-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/04/02 | TTW-02246 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02247 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02248 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02249 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02250 | D | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02251 | C | 1278 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/04/02 | TTW-02252 | B | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/04/02 | TTW-02253 | A | 1440 | Air | 8.28 | 0.002 | ***1 | 0 | 16 | 0.0043 |
| 04/04/02 | TTW-02254 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02255 | J | 1476 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/04/02 | TTW-02256 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | TTW-02257 | M1 | 1109.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 04/04/02 | TTW-02258 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
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C1: SW corner of Broadway & Liberty St.
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W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/09/02**
**Sampling Date and Time:** 4/3/02 1200 to 2400

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/03/02 | TTW-02205 | W | 1440 | Air | 24.2 | 0.006 | ***1 | 0 | 16 | 0.0043 |
| 04/03/02 | TTW-02206 | Q | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02207 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02208 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02209 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02210 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02211 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02212 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02213 | D-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02214 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02215 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02216 | A | 1404 | Air | 7.01 | 0.002 | ***3 | 0 | 48 | 0.0132 |
| 04/03/02 | TTW-02218 | J | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02219 | J-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | TTW-02220 | N | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/03/02 | TTW-02221 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/03/02 | TTW-02222 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample Submitted for Location F due to flow fault*

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 4/5/02 0001 to 1200

**Data Validation Date: 04/09/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/05/02 | FB040502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/05/02 | TB040502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/05/02 | TTW-02259 | W | 1440 | Air | 10.83 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02260 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/05/02 | TTW-02261 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02262 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02263 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02264 | U-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02265 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02266 | V-Dup | 1293.9 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/05/02 | TTW-02267 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02268 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/05/02 | TTW-02269 | C | 1440 | Air | 15.29 | 0.004 | 0 | ***1 | 16 | 0.0043 |
| 04/05/02 | TTW-02270 | B | 1404 | Air | 13.38 | 0.004 | 0 | 0 | <16.00 | <0.0044 |
| 04/05/02 | TTW-02271 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02272 | F | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/05/02 | TTW-02273 | J | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/05/02 | TTW-02274 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02275 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02276 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-04-05-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 4/5/02 1200 to 4/6/02 0745

**Data Validation Date: 04/10/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/05/02 | TTW-02277 | W | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02279 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02280 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02281 | S | 2310.75 | Air | <7.0 | <0.001 | 0 | 0 | <20.00 | <0.0033 |
| 04/05/02 | TTW-02282 | S-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02283 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02284 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02285 | K | 1263.6 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 04/05/02 | TTW-02286 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/05/02 | TTW-02287 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02288 | B | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02289 | B-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02290 | A | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/05/02 | TTW-02291 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | TTW-02292 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/05/02 | TTW-02293 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/05/02 | TTW-02294 | M1 | 1300.65 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/05/02 | TTW-02295 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*TTW-02278 was misplaced on wrong cassette and was voided*
*TTW-02881 ran for almost 20 hours. (19 hours 45 mins)*

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/10/2002**
**Sampling Date and Time:** **4/6/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/06/02 | FB040602 | Field Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[2] | NA[2] | NA[2] |
| 04/06/02 | TB040602 | Trip Blank | 0 | Air | <7.0 | n/a | NA[1] | NA[2] | NA[2] | NA[2] |
| 04/06/02 | TTW-02297 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02296 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02298 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02299 | S | 1390 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/06/02 | TTW-02300 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/06/02 | TTW-02301 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02302 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02303 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02304 | C | 1440 | Air | 9.55 | 0.003 | ***2 | 0 | 32 | 0.0086 |
| 04/06/02 | TTW-02305 | B | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/06/02 | TTW-02306 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02307 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02308 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/06/02 | TTW-02309 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02310 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02312 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02313 | L-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 3/24/02 0735 to 2138

**Data Validation Date: 03/17/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 03/24/02 | LF03632 | P-1 | 1074.60 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 03/24/02 | LF03633 | P-2 | 1229.40 | Air | <7.0 | <0.002 | ***2 | 0 | 31.5 | 0.0099 |
| 03/24/02 | LF03634 | P-3 | 1234.80 | Air | <7.0 | <0.002 | 0 | ***1 | 15.75 | 0.0049 |
| 03/24/02 | LF03635 | P-4 | 1144.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 03/24/02 | LF03636 | P-5 | 1195.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/24/02 | LF03637 | P-6 | 1123.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/24/02 | LF03638 | P-7 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/24/02 | LF03639 | P-8 | 1036.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 03/24/02 | LF03640 | W-12A | 1254.00 | Air | 45.86 | 0.014 | 0 | 0 | <15.75 | <0.0048 |
| 03/24/02 | LF03641 | W-12B | 1145.70 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0044 |
| 03/24/02 | LF03642 | B-13 | 1171.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/24/02 | LF03643 | B-14 | 1196.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 03/24/02 | LF03644 | T-15 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 03/24/02 | LF03645 | T-16 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 03/24/02 | LF03646 | O-17 | 1166.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/24/02 | LF03647 | O-18 | 1283.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 03/24/02 | LF03648 | O-19 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 03/24/02 | LF03649 | MPHS-20 | 1170.10 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 03/24/02 | LF03650 | W-12B Dup | 1130.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 03/24/02 | LF03651 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 03/24/02 | LF03652 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FK-03-24-02rev1.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/1/02 0700 to 2041

**Data Validation Date: 04/07/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/01/02 | LF03779 | P-1 | 1006.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 04/01/02 | LF03780 | P-2 | 721.80 | Air | 7.64 | 0.004 | ***1 | 0 | 8.75 | 0.0047 |
| 04/01/02 | LF03781 | P-3 | 1030.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 04/01/02 | LF03782 | P-4 | 1051.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 04/01/02 | LF03783 | P-5 | 1274.40 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 04/01/02 | LF03784 | P-6 | 1123.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/01/02 | LF03785 | P-7 | 957.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0045 |
| 04/01/02 | LF03786 | P-8 | 1012.70 | Air | <7.0 | <0.003 | ***1 | 0 | 11.25 | 0.0043 |
| 04/01/02 | LF03787 | W-12A | 1135.60 | Air | 22.93 | 0.008 | 0 | 0 | <13.12 | <0.0044 |
| 04/01/02 | LF03788 | W-12B | 1224.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0050 |
| 04/01/02 | LF03789 | B-13 | 1112.40 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 04/01/02 | LF03790 | B-14 | 1288.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/01/02 | LF03791 | T-15 | 1296.00 | Air | 15.29 | 0.005 | 0 | 0 | <15.75 | <0.0047 |
| 04/01/02 | LF03792 | T-16 | 1296.00 | Air | 19.11 | 0.006 | ***1 | 0 | 15.75 | 0.0047 |
| 04/01/02 | LF03793 | O-17 | 1227.60 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0049 |
| 04/01/02 | LF03794 | O-18 | 1053.00 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 04/01/02 | LF03795 | O-19 | 1006.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 04/01/02 | LF03796 | MPHS-20 | 1015.20 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 04/01/02 | LF03797 | P-4 Dup | 1076.40 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0047 |
| 04/01/02 | LF03798 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/01/02 | LF03799 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 4/2/02 0756 to 2208**

**Data Validation Date: 04/09/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 04/02/02 | LF03800 | P-1 | 1220.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/02/02 | LF03801 | P-2 | 1063.80 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 04/02/02 | LF03802 | P-3 | 1132.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/02/02 | LF03803 | P-4 | 1022.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0049 |
| 04/02/02 | LF03804 | P-5 | 1150.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/02/02 | LF03805 | P-6 | 1207.05 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 04/02/02 | LF03806 | P-7 | 1265.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/02/02 | LF03807 | P-8 | 1211.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 04/02/02 | LF03808 | W-12A | 1123.20 | Air | 11.46 | 0.004 | 0 | 0 | <13.12 | <0.0045 |
| 04/02/02 | LF03809 | W-12B | 1225.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/02/02 | LF03810 | B-13 | 1064.20 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 04/02/02 | LF03811 | B-14 | 1116.00 | Air | 7.64 | 0.003 | ***4 | 0 | 52.49 | 0.018† |
| 04/02/02 | LF03812 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/02/02 | LF03813 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/02/02 | LF03814 | O-17 | 1198.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0042 |
| 04/02/02 | LF03815 | O-18 | 1144.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/02/02 | LF03816 | O-19 | 926.40 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0047 |
| 04/02/02 | LF03817 | MPHS-20 | 1230.45 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/02/02 | LF03818 | P-8 Dup | 1259.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/02/02 | LF03819 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/02/02 | LF03820 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times: 4/3/02 0751 to 2052**

**Data Validation Date: 04/09/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc** |
| 04/03/02 | LF03821 | P-1 | 993.60 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0044 |
| 04/03/02 | LF03822 | P-2 | 1163.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/03/02 | LF03823 | P-3 | 1242.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/03/02 | LF03824 | P-4 | 1179.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/03/02 | LF03825 | P-5 | 1220.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/03/02 | LF03826 | P-6 | 1086.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 04/03/02 | LF03827 | P-7 | 1074.40 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0047 |
| 04/03/02 | LF03828 | P-8 | 1035.00 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0049 |
| 04/03/02 | LF03829 | W-12A | 1145.10 | Air | 10.19 | 0.003 | 0 | ***1 | 13.12 | 0.0044 |
| 04/03/02 | LF03830 | W-12B | 1011.50 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 04/03/02 | LF03831 | B-13 | 863.60 | Air | <7.0 | <0.003 | ***1 | 0 | 9.84 | 0.0044 |
| 04/03/02 | LF03832 | B-14 | 1099.80 | Air | 14.01 | 0.005 | ***6 | ***1 | 91.86 | 0.0322 |
| 04/03/02 | LF03833 | T-15 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/03/02 | LF03834 | T-16 | 1296.00 | Air | 8.92 | 0.003 | 0 | 0 | <13.12 | <0.0039 |
| 04/03/02 | LF03835 | O-17 | 1121.40 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 04/03/02 | LF03836 | O-18 | 1094.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0046 |
| 04/03/02 | LF03837 | O-19 | 1184.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/03/02 | LF03838 | MPHS-20 | 1056.60 | Air | <7.0 | <0.003 | ***1 | 0 | 13.12 | 0.0048 |
| 04/03/02 | LF03839 | P-7 Dup | 1156.75 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/03/02 | LF03840 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/03/02 | LF03841 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

FK-04-03-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** **4/4/02 0820 to 4/5/02 0653** **Data Validation Date: 04/09/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/04/02 | LF03842 | P-1 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/04/02 | LF03843 | P-2 | 1170.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/04/02 | LF03844 | P-3 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/04/02 | LF03845 | P-4 | 615.60 | Air | <7.0 | <0.004 | 0 | 0 | <7.87 | <0.0049 |
| 04/04/02 | LF03846 | P-5 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/04/02 | LF03847 | P-6 | 2230.20 | Air | <7.0 | <0.001 | ***3 | 0 | 59.06 | 0.0102 |
| 04/04/02 | LF03848 | P-7 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/04/02 | LF03849 | P-8 | 1166.40 | Air | <7.0 | <0.002 | ***3 | 0 | 39.37 | 0.0130 |
| 04/04/02 | LF03850 | W-12A | 1296.00 | Air | 22.93 | 0.007 | 0 | 0 | <13.12 | <0.0039 |
| 04/04/02 | LF03852 | B-13 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/04/02 | LF03853 | B-14 | 1128.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/04/02 | LF03854 | T-15 | 1296.00 | Air | 16.56 | 0.005 | 0 | 0 | <13.12 | <0.0039 |
| 04/04/02 | LF03855 | T-16 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/04/02 | LF03856 | O-17 | 1161.10 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0044 |
| 04/04/02 | LF03857 | O-18 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/04/02 | LF03858 | O-19 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/04/02 | LF03859 | MPHS-20 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/04/02 | LF03860 | P-6 Dup | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/04/02 | LF03861 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/04/02 | LF03862 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*No Sample submitted for Location W12 B due to flow fault*
*Sample LF03827 ran for over 20 hours ( 20 hours 39 mins)*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-04-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/5/02 0743 to 2212

**Data Validation Date: 04/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/05/02 | LF03863 | P-1 | 1224.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0041 |
| 04/05/02 | LF03864 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/05/02 | LF03865 | P-3 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/05/02 | LF03866 | P-4 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/05/02 | LF03867 | P-5 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/05/02 | LF03868 | P-6 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 04/05/02 | LF03869 | P-7 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/05/02 | LF03870 | P-8 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/05/02 | LF03871 | W-12A | 1008.00 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0043 |
| 04/05/02 | LF03872 | W-12B | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/05/02 | LF03873 | B-13 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 04/05/02 | LF03874 | B-14 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/05/02 | LF03875 | T-15 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/05/02 | LF03876 | T-16 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/05/02 | LF03877 | O-17 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/05/02 | LF03878 | O-18 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/05/02 | LF03879 | O-19 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/05/02 | LF03880 | MPHS-20 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/05/02 | LF03881 | P-5 Dup | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 04/05/02 | LF03882 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[3] | NA[2] |
| 04/05/02 | LF03883 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
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**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-05-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/8/02**
**Sampling Date and Time: 3/26/02 1200 to 2108**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume*** | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/26/02 | 7093-15-0178 | I.S. 143 Manhattan | 1096 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 03/26/02 | 7094-09-0168 | P.S. 154 (Bronx) | 716 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0043 |
| 03/26/02 | 7096-12-0174 | P.S. 199 (Queens) | 824 | Air | <7.0 | <0.003 | 0 | 0 | <10.00 | <0.0047 |

*Sample for the Locations Park Row, Chambers Street, P.S. 274, and P.S. 44 were not analyzed due to low volumes*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 3/31/02 1200 to 2400**

**Data Validation Date: 4/9/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 03/31/02 | 7093-18-0185 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | 7093-19-0185 | Chambers Street | 1414 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/31/02 | 7093-15-0183 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | 7096-12-0179 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | 7095-98-0179 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/31/02 | 7097-18-0176 | P.S. 44 (S I) | 1298 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |

*No Sample was submitted for Location P.S 154 - Bronx due to there was no access to the pump*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/9/02**
**Sampling Date and Time: 3/30/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 03/30/02 | 7093-18-0184 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | 7093-19-0184 | Chambers Street | 1360 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 03/30/02 | 7093-15-0182 | I.S. 143 Manhattan | 1396 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/30/02 | 7096-12-0178 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/30/02 | 7095-98-0178 | P.S. 274 (Brooklyn) | 1296 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 03/30/02 | 7097-18-0175 | P.S. 44 (S I) | 1328 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |

*No Sample was submitted for Location P.S 154 - Bronx due to there was no access to the pump*

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/5/02**
**Sampling Date and Time: 3/29/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 03/29/02 | 7093-18-0183 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | 7093-19-0183 | Chambers Street | 1424 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | 7093-15-0181 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | 7094-09-0170 | P.S. 154 (Bronx) | 1428 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | 7096-12-0177 | P.S. 199 (Queens) | 1398 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 03/29/02 | 7095-98-0177 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 03/29/02 | 7097-18-0174 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time:** 4/1/02 1200 to 2400

**Data Validation Date: 4/5/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/01/02 | 7093-18-0186 | Park Row | 1282 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0040 |
| 04/01/02 | 7093-19-0186 | Chambers Sreet | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | 7093-15-0184 | I.S. 143 Manhattan | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/01/02 | 7094-09-0172 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | 7096-12-0180 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/01/02 | 7095-98-0180 | P.S. 274 (Brooklyn) | 1376 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/01/02 | 7097-18-0177 | P.S. 44 (S.I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/10/02**
**Sampling Date and Time: 4/2/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/02/02 | 7093-18-0187 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7093-19-0187 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7093-15-0185 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7094-09-0173 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7096-12-0181 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7095-98-0181 | P.S. 274 (Brooklyn) | 1432 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/02/02 | 7097-18-0178 | P.S. 44 (S I) | 1244 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 3/18/02

| Sample No. | WG7167-1 | | | 06809 | | | 06807 | | | 06806 | | | 06805 | | | 06804 | | | 06803 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | Location S | | |
| Volume (Liters) | 0 | | | 6375 | | | 5945 | | | 6315 | | | 6315 | | | 6015 | | | 9720 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0031 | U | | 0.0029 | U | | 0.0032 | U | | 0.0032 | U | | 0.0033 | U | | 0.0021 |
| 12378-PeCDD | 0.0029 J | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.016 | U | | 0.017 | U | | 0.010 |
| 123478-HxCDD | U | 0.0027 | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.016 | U | | 0.017 | U | | 0.010 |
| 123678-HxCDD | U | 0.0028 | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.016 | U | | 0.017 | U | | 0.010 |
| 123789-HxCDD | U | 0.0026 | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | 0.0006 J | | 0.016 | 0.0009 J | | 0.017 | U | 0.0006 | 0.010 |
| 1234678-HpCDD | 0.0053 J | | 0.10 | 0.0009 J | | 0.016 | U | 0.0014 | 0.014 | 0.0013 J | | 0.016 | 0.0006 J | | 0.016 | 0.0046 J | | 0.033 | 0.0028 J | | 0.021 |
| OCDD | U | 0.0148 | 0.20 | U | 0.0024 | 0.031 | U | | 0.029 | 0.0035 J | | 0.032 | 0.0027 J | | 0.032 | 0.0046 J | | 0.033 | 0.0028 J | | 0.021 |
| 2378-TCDF | U | | 0.020 | U | | 0.0031 | U | | 0.0029 | U | | 0.0032 | U | | 0.0032 | U | | 0.0033 | U | | 0.0021 |
| 12378-PeCDF | 0.0026 J | | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | 0.0002 J | | 0.016 | U | 0.0002 | 0.017 | 0.0001 J | | 0.010 |
| 23478-PeCDF | 0.0023 J | | 0.10 | U | | 0.016 | U | 0.0003 | 0.014 | U | | 0.016 | 0.0002 J | | 0.016 | U | 0.0002 | 0.017 | 0.0001 J | | 0.010 |
| 123478-HxCDF | 0.0018 J | | 0.10 | U | 0.0003 | 0.016 | U | | 0.014 | 0.0003 J | | 0.016 | U | | 0.016 | U | 0.0001 | 0.017 | U | | 0.010 |
| 123678-HxCDF | 0.0024 J | | 0.10 | U | 0.0004 | 0.016 | U | | 0.014 | 0.0004 J | | 0.016 | 0.0002 J | | 0.016 | U | 0.0003 | 0.017 | U | | 0.010 |
| 234678-HxCDF | U | 0.0022 | 0.10 | 0.0003 J | | 0.016 | U | | 0.014 | 0.0008 J | | 0.016 | U | | 0.016 | U | 0.0002 | 0.017 | U | | 0.010 |
| 123789-HxCDF | U | 0.0026 | 0.10 | U | | 0.016 | U | | 0.014 | 0.0002 J | | 0.016 | U | | 0.016 | U | | 0.017 | U | | 0.010 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.016 | U | | 0.014 | U | 0.0004 | 0.016 | 0.0002 J | | 0.016 | 0.0002 J | | 0.017 | U | 0.0002 | 0.010 |
| 1234789-HpCDF | U | 0.0017 | 0.10 | U | | 0.016 | U | | 0.014 | U | | 0.016 | U | | 0.016 | U | | 0.017 | U | | 0.010 |
| OCDF | U | 0.0024 | 0.20 | U | | 0.031 | U | | 0.029 | U | | 0.032 | U | | 0.032 | U | | 0.033 | U | | 0.021 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | 0.0029 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0053 | | | 0.0009 | | | U | | | 0.0013 | | | 0.0008 | | | 0.0009 | | | 0.0004 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0049 | | | U | | | U | | | U | | | 0.0004 | | | U | | | 0.0002 | | |
| Total HxCDFs | 0.0042 | | | 0.0003 | | | U | | | 0.0015 | | | 0.0002 | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | 0.0002 | | | 0.0002 | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0032 | | | 0.0000 | | | 0.0003 | | | 0.0001 | | | 0.0001 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0161 | | | 0.0013 | | | 0.0018 | | | 0.0013 | | | 0.0006 | | | 0.0006 | | | 0.0003 | | |

COC# 03/18/02 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent
NA Not Analyzed . Sample not received by the laboratory
The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

ERTC 4/03/02

3-19-02dioxin.xls

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 3/19/02

| Sample No. | 06802 | | | 06801 | | | 06800 | | | 06799 | | | 06809 | | | 06810 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7290 | | | 7470 | | | 7089 | | | 7209 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | 0.0003 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.013 | U | 0.0004 | 0.014 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.014 | 0.0004 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.013 | 0.0004 J | | 0.014 | U | 0.0005 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0009 J | | 0.014 | 0.0011 J | | 0.013 | 0.0017 J | | 0.014 | 0.0027 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDD | U | 0.0026 | 0.027 | 0.0028 J | | 0.027 | 0.0033 J | | 0.028 | 0.0068 J | | 0.028 | U | | 0.20 | U | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0027 | U | | 0.0028 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.014 | U | 0.0002 | 0.013 | U | 0.0002 | 0.014 | 0.0002 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | 0.0002 J | | 0.014 | U | 0.0002 | 0.013 | U | 0.0002 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.013 | U | 0.0002 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.013 | U | 0.0002 | 0.014 | U | 0.0002 | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | 0.0002 | 0.013 | U | 0.0002 | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.013 | 0.0003 J | | 0.014 | 0.0003 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.013 | U | | 0.014 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.027 | U | | 0.028 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | 0.0005 | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | 0.0004 | | | 0.0004 | | | U | | | U | | |
| Total HpCDDs | 0.0009 | | | 0.0011 | | | 0.0028 | | | 0.0046 | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0002 | | | 0.0000 | | | U | | | 0.0004 | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | 0.0004 | | | 0.0003 | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0001 | | | 0.0000 | | | 0.0001 | | | 0.0002 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0006 | | | 0.0005 | | | 0.0005 | | | 0.0006 | | | 0.0417 | | | 0.0419 | | |

COC# 03182 dioxin

3-18-02dioxin.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0125 | | WTC-0126 | | WTC-0120 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4410 | |
| Date Collected | | - | | - | | - | | 03/15/02 | | 03/15/02 | | 03/15/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | 0.32 | 0.28 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.028 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.028 |
| Calcium | ICAP | 4.1 | 2.5 | 3.5 | 2.5 | 3.7 | 2.5 | U | 2.5 | U | 2.5 | 1.7 | 0.57 |
| Chromium | ICAP | 0.81 | 0.13 | 0.65 | 0.13 | 0.77 | 0.13 | 0.14 | 0.13 | 0.30 | 0.13 | U | 0.028 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.057 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.057 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.85 | 0.14 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.024 | 0.011 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.8 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.028 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.057 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 11 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.028 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.8 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.011 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.057 |
| Zinc | ICAP | 0.60 | 0.25 | 0.30 | 0.25 | 0.41 | 0.25 | U | 0.25 | U | 0.25 | 0.083 | 0.057 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0(cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0121 | | WTC-0122 | | WTC-0123 | | WTC-0124 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 3105 | | 5877 | | 4655 | | 4646 | |
| Date Collected | | 03/15/02 | | 03/15/02 | | 03/15/02 | | 03/15/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.40 | U | 0.21 | 0.37 | 0.27 | 0.32 | 0.27 |
| Antimony | AA-Fur | U | 0.016 | U | 0.0085 | U | 0.011 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.016 | U | 0.0085 | U | 0.011 | U | 0.011 |
| Barium | ICAP | U | 0.04 | U | 0.021 | 0.039 | 0.027 | 0.029 | 0.027 |
| Beryllium | ICAP | U | 0.016 | U | 0.0085 | U | 0.011 | U | 0.011 |
| Cadmium | ICAP | U | 0.04 | U | 0.021 | U | 0.027 | U | 0.027 |
| Calcium | ICAP | U | 0.81 | 0.54 | 0.43 | 1.3 | 0.54 | 0.89 | 0.54 |
| Chromium | ICAP | U | 0.04 | U | 0.021 | U | 0.027 | U | 0.027 |
| Cobalt | ICAP | U | 0.081 | U | 0.043 | U | 0.054 | U | 0.054 |
| Copper | ICAP | U | 0.081 | U | 0.043 | U | 0.054 | U | 0.054 |
| Iron | ICAP | 0.37 | 0.20 | 0.37 | 0.11 | 0.82 | 0.13 | 0.65 | 0.13 |
| Lead | AA-Fur | U | 0.016 | U | 0.0085 | 0.015 | 0.011 | 0.012 | 0.011 |
| Magnesium | ICAP | U | 4.0 | U | 2.1 | U | 2.7 | U | 2.7 |
| Manganese | ICAP | U | 0.04 | U | 0.021 | U | 0.027 | U | 0.027 |
| Nickel | ICAP | U | 0.081 | U | 0.043 | U | 0.054 | 0.066 | 0.054 |
| Potassium | ICAP | U | 16 | U | 8.5 | U | 11 | U | 11 |
| Selenium | AA-Fur | U | 0.016 | U | 0.0085 | U | 0.011 | U | 0.011 |
| Silver | ICAP | U | 0.04 | U | 0.021 | U | 0.027 | U | 0.027 |
| Sodium | ICAP | U | 4.0 | U | 2.1 | U | 2.7 | U | 2.7 |
| Thallium | AA-Fur | U | 0.016 | U | 0.0085 | U | 0.011 | U | 0.011 |
| Vanadium | ICAP | U | 0.081 | U | 0.043 | U | 0.054 | U | 0.054 |
| Zinc | ICAP | 0.093 | 0.081 | U | 0.043 | 0.068 | 0.054 | U | 0.054 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

NYC Emergency Response
Air Samples - dioxin and furan results
Sampling Date 3/21/02

| Sample No. | WG71670-C1 | | | 06820 | | | 06819 | | | 06818 | | | 06817 | | | 06816 | | | 06815 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dey St. | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | Location S | | |
| Volume (Liters) | 0 | | | 5295 | | | 7845 | | | 6180 | | | 7530 | | | 6699 | | | 7320 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0038 | U | | 0.0025 | U | | 0.0032 | U | | 0.0027 | U | | 0.0030 | U | | 0.0027 |
| 12378-PeCDD | U | 0.0034 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123478-HxCDD | 0.0058 J | - | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123678-HxCDD | U | 0.0038 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123789-HxCDD | U | 0.0084 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 1234678-HpCDD | U | 0.0067 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | 0.00093 J | | 0.013 | 0.0009 J | | 0.015 | U | | 0.014 |
| OCDD | 0.0319 J | | 0.20 | U | | 0.038 | U | | 0.025 | U | 0.0039 | 0.032 | U | | 0.027 | U | 0.0043 | 0.030 | U | | 0.027 |
| 2378-TCDF | U | | 0.020 | U | | 0.0038 | U | | 0.0025 | U | | 0.0032 | U | | 0.0027 | U | | 0.0030 | U | | 0.0027 |
| 12378-PeCDF | 0.0036 J | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | 0.0002 | 0.013 | U | | 0.015 | U | | 0.014 |
| 23478-PeCDF | U | 0.0032 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123478-HxCDF | U | 0.0045 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123678-HxCDF | 0.0042 J | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 234678-HxCDF | 0.0039 J | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 123789-HxCDF | U | 0.0042 | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| 1234678-HpCDF | 0.0033 J | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | 0.0004 | 0.013 | U | | 0.015 | U | | 0.014 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.019 | U | | 0.013 | U | | 0.016 | U | | 0.013 | U | | 0.015 | U | | 0.014 |
| OCDF | U | | 0.20 | U | | 0.038 | U | | 0.025 | U | | 0.032 | U | | 0.027 | U | | 0.030 | U | | 0.027 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | 0.0058 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | 0.0009 | | | 0.0009 | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | 0.0038 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | 0.0020 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | 0.0033 | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0016 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0375 | | | 0.0023 | | | 0.0012 | | | 0.0019 | | | 0.0017 | | | 0.0020 | | | 0.0014 | | |

COC# 032102 dioxin
B= Not detected due to blank contamination
EMPC: Estimated Maximum Possible Concentration
TEQ: Toxicity Equivalent
NA Not Analyzed, Sample not received by the laboratory
The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.

ERTC 4/05/02

3-21-02dioxin.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/21/02**

| Sample No. | 06814 | | | 06813 | | | 06812 | | | 06811 | | | 06821 | | | 06822 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location S | | | Location P | | | Location E | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7215 | | | 7699 | | | 6816 | | | 7245 | | | 6 | | | 6 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0028 | U | | 0.0028 | U | | 0.0026 | U | | 0.0026 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDD | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | 0.0011 J | | 0.014 | U | | 0.013 | U | | 0.015 | 0.0009 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDD | U | | 0.028 | U | 0.0033 | 0.026 | U | | 0.029 | U | | 0.028 | U | | 0.20 | 0.0405 J | | 0.20 |
| 2378-TCDF | U | | 0.0028 | U | | 0.0026 | U | | 0.0029 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | 0.0002 | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.014 | U | | 0.013 | 0.0003 J | | 0.015 | 0.0003 J | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0004 | 0.014 | U | | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0004 | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0003 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | 0.0004 | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.014 | U | | 0.013 | U | | 0.015 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.028 | U | | 0.026 | U | | 0.029 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | 0.0011 | | | U | | | U | | | 0.0009 | | | U | | | U | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | 0.0003 | | | 0.0003 | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total Adjusted Conc | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0002 | | | 0.0002 | | | 0.0000 | | | 0.0000 | | |
| TEQ (ND=1/2) | 0.0015 | | | 0.0012 | | | 0.0016 | | | 0.0015 | | | 0.0401 | | | 0.0401 | | |

COC# 05/21/02 dioxin

3-21-02dioxir.xls

Table 1 0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | Media Blank #1 | | Media Blank#2 | | Media Blank#3 | | WTC-0132 | | WTC-0133 | | WTC-0127 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lab | | Lab | | Lab | | Field Blank | | Lot Blank | | P-5 | |
| Air Volume (L) | | - | | - | | - | | 0 | | 0 | | 4850 | |
| Date Collected | | - | | - | | - | | 03/21/02 | | 03/21/02 | | 03/21/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 0.26 |
| Antimony | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Arsenic | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Barium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Beryllium | ICAP | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Cadmium | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Calcium | ICAP | 3.6 | 2.5 | 3.6 | 2.5 | 3.8 | 2.5 | U | 2.5 | U | 2.5 | 0.72 | 0.52 |
| Chromium | ICAP | 0.53 | 0.13 | 0.54 | 0.13 | 0.84 | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Cobalt | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Copper | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Iron | ICAP | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | U | 0.63 | 0.41 | 0.13 |
| Lead | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | 0.023 | 0.01 |
| Magnesium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Manganese | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Nickel | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Potassium | ICAP | U | 50 | U | 50 | U | 50 | U | 50 | U | 50 | U | 10 |
| Selenium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Silver | ICAP | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 0.026 |
| Sodium | ICAP | U | 13 | U | 13 | U | 13 | U | 13 | U | 13 | U | 2.6 |
| Thallium | AA-Fur | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.01 |
| Vanadium | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.052 |
| Zinc | ICAP | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | 0.058 | 0.052 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.0 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) Landfill site

| Client ID | | WTC-0128 | | WTC-0129 | | WTC-0130 | | WTC-0131 | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | P-8 | | O-17 | | O-18 | | O-19 | |
| Air Volume (L) | | 3960 | | 2320 | | 4640 | | 4590 | |
| Date Collected | | 03/21/02 | | 03/21/02 | | 03/21/02 | | 03/21/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.32 | U | 0.54 | U | 0.27 | U | 0.27 |
| Antimony | AA-Fur | U | 0.013 | U | 0.022 | U | 0.011 | U | 0.011 |
| Arsenic | AA-Fur | U | 0.013 | U | 0.022 | U | 0.011 | U | 0.011 |
| Barium | ICAP | U | 0.032 | U | 0.054 | U | 0.027 | U | 0.027 |
| Beryllium | ICAP | U | 0.013 | U | 0.022 | U | 0.011 | U | 0.011 |
| Cadmium | ICAP | U | 0.032 | U | 0.054 | U | 0.027 | U | 0.027 |
| Calcium | ICAP | U | 0.63 | U | 1.1 | U | 0.54 | 0.71 | 0.54 |
| Chromium | ICAP | 0.047 | 0.032 | 0.057 | 0.054 | U | 0.027 | U | 0.027 |
| Cobalt | ICAP | U | 0.063 | U | 0.11 | U | 0.054 | U | 0.054 |
| Copper | ICAP | U | 0.063 | U | 0.11 | U | 0.054 | U | 0.054 |
| Iron | ICAP | 0.30 | 0.16 | U | 0.27 | 0.44 | 0.13 | 0.41 | 0.14 |
| Lead | AA-Fur | 0.015 | 0.013 | U | 0.022 | 0.011 | 0.011 | 0.019 | 0.011 |
| Magnesium | ICAP | U | 3.2 | U | 5.4 | U | 2.7 | U | 2.7 |
| Manganese | ICAP | U | 0.032 | U | 0.054 | U | 0.027 | U | 0.027 |
| Nickel | ICAP | U | 0.063 | U | 0.11 | U | 0.054 | U | 0.054 |
| Potassium | ICAP | U | 13 | U | 22 | U | 11 | U | 11 |
| Selenium | AA-Fur | U | 0.013 | U | 0.022 | U | 0.011 | U | 0.011 |
| Silver | ICAP | U | 0.032 | U | 0.054 | U | 0.027 | U | 0.027 |
| Sodium | ICAP | U | 3.2 | U | 5.4 | U | 2.7 | U | 2.7 |
| Thallium | AA-Fur | U | 0.013 | U | 0.022 | U | 0.011 | U | 0.011 |
| Vanadium | ICAP | U | 0.063 | U | 0.11 | U | 0.054 | U | 0.054 |
| Zinc | ICAP | U | 0.063 | U | 0.11 | U | 0.054 | 0.076 | 0.054 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/28/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| | | | Liters | | | | |
| 3/28/02 | TTWS-0178 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0177 | 3A | 990 | Air | 0.02 J | <0.02 | <0.02 |
| 3/28/02 | TTWS-0176 | B | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0175 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0174 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0173 | D | 980 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0170 | E | 990 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0171 | P | 990 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0172 | S | 990 | Air | <0.01 | <0.02 | <0.02 |
| 3/28/02 | TTWS-0169 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

:# 03/28/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 4/08/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-28-02silica.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/26/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 3/26/02 | TTWS-0166 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0165 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0164 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0163 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0162 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0161 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0158 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0159 | P | 1000 | Air | 0.02 J | <0.02 | <0.02 |
| 3/26/02 | TTWS-0160 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/26/02 | TTWS-0157 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

:# 03/26/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 4/03/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-26-02silica.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 03/21/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 3/21/02 | TTWS-0154 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0153 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0152 | B | 990 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0151 | C | 960 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0150 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0149 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0146 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0147 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0148 | S | 960 | Air | <0.01 | <0.02 | <0.02 |
| 3/21/02 | TTWS-0145 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

:# 03/21/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 4/03/02

**NIOSH 7500: Silica crystalline by XRD**

FL-03-21-02silica.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06324 | | 06324 | | 06324 | | 06323 | | 06313 | | 06314 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 4200 | | 4150 | |
| Date Collected | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.60 | U | 0.60 | U | 0.60 | U J | 0.60 | U J | 0.14 | 1.0 J | 0.14 |
| Antimony | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.018 | U | 0.018 |
| Arsenic | AA-Fur | U | 0.125 | U | 0.125 | U | 0.125 | U J | 0.125 | U J | 0.030 | U J | 0.030 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U J | 0.32 | U J | 0.075 | U J | 0.076 |
| Beryllium | ICAP | U | 0.050 | U | 0.050 | U | 0.050 | U J | 0.050 | U J | 0.012 | U J | 0.012 |
| Cadmium | ICAP | U | 0.016 | U | 0.016 | U | 0.016 | U J | 0.016 | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | U | 3.5 | U | 3.5 | U | 3.5 | U J | 3.5 | 3.1 J | 0.83 | 9.1 J | 0.84 |
| Chromium | ICAP | 0.85 | 0.042 | 0.51 | 0.042 | 0.83 | 0.042 | U J | 0.042 | U J | 0.010 | U J | 0.010 |
| Cobalt | ICAP | U | 0.034 | U | 0.034 | U | 0.034 | U J | 0.034 | U J | 0.007 | U J | 0.008 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U J | 0.44 | U J | 0.11 | U J | 0.11 |
| Iron | ICAP | U | 0.90 | 2.1 | 0.90 | U | 0.90 | U J | 0.90 | 0.91 J | 0.21 | 2.8 J | 0.21 |
| Lead | AA-Fur | U | 0.010 | 0.021 | 0.010 | 0.019 | 0.010 | U | 0.010 | 0.019 | 0.002 | 0.065 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U J | 3.3 | U J | 0.79 | 1.8 J | 0.80 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U J | 0.078 | 0.041 J | 0.019 | 0.060 J | 0.019 |
| Nickel | ICAP | U | 0.058 | U | 0.058 | U | 0.058 | 0.062 J | 0.058 | U J | 0.014 | U J | 0.014 |
| Potassium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U J | 3.7 | U J | 0.87 | U J | 0.89 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U J | 0.075 | U J | 0.018 | U J | 0.018 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U J | 0.025 | U J | 0.006 | U J | 0.006 |
| Sodium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 0.88 | U | 0.89 |
| Thallium | AA-Fur | U | 0.035 | U | 0.035 | U | 0.035 | U J | 0.035 | U J | 0.008 | U J | 0.008 |
| Vanadium | ICAP | U | 0.037 | U | 0.037 | U | 0.037 | U J | 0.037 | U J | 0.009 | U J | 0.009 |
| Zinc | ICAP | U | 0.079 | 0.11 | 0.079 | U | 0.079 | U J | 0.079 | U J | 0.019 | U J | 0.019 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06315 | | 06316 | | 06317 | | 06318 | | 06319 | | 06320 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | Location 3A | | LOC B CHURCH & DEY ST | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | | P-ALBANY ST. & SOUTH END AVE | |
| Air Volume (L) | | 5116.5 | | 3750 | | 4690 | | 4868.75 | | 4660 | | 4336.5 | |
| Date Collected | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 0.43 J | 0.12 | 1.4 J | 0.16 | 0.38 J | 0.13 | 0.38 J | 0.12 | 0.42 J | 0.13 | 0.85 J | 0.14 |
| Antimony | AA-Fur | U | 0.015 | 0.026 | 0.020 | U | 0.016 | U | 0.015 | U | 0.016 | U | 0.017 |
| Arsenic | AA-Fur | U J | 0.024 | U J | 0.033 | U J | 0.027 | U J | 0.026 | U J | 0.027 | U J | 0.029 |
| Barium | ICAP | U J | 0.062 | U J | 0.084 | U J | 0.067 | U J | 0.065 | U J | 0.068 | U J | 0.073 |
| Beryllium | ICAP | U J | 0.010 | U J | 0.013 | U J | 0.011 | U J | 0.010 | U J | 0.011 | U J | 0.012 |
| Cadmium | ICAP | U J | 0.003 | U J | 0.004 | U J | 0.003 | U J | 0.003 | U J | 0.003 | U J | 0.004 |
| Calcium | ICAP | 5.1 J | 0.68 | 16 J | 0.93 | 4.0 J | 0.74 | 3.2 J | 0.72 | 4.5 J | 0.76 | 6.7 J | 0.81 |
| Chromium | ICAP | U J | 0.008 | U J | 0.010 | U J | 0.008 | 0.040 J | 0.008 | U J | 0.009 | U J | 0.009 |
| Cobalt | ICAP | U J | 0.007 | U J | 0.009 | U J | 0.007 | U J | 0.007 | 0.008 J | 0.007 | U J | 0.008 |
| Copper | ICAP | U J | 0.086 | 0.13 J | 0.11 | U J | 0.094 | U J | 0.091 | U J | 0.095 | U J | 0.10 |
| Iron | ICAP | 1.5 J | 0.17 | 5.0 J | 0.24 | 1.9 J | 0.19 | 2.8 J | 0.18 | 2.3 J | 0.19 | 2.3 J | 0.20 |
| Lead | AA-Fur | 0.046 | 0.002 | 0.05 | 0.003 | 0.038 | 0.002 | 0.021 | 0.002 | 0.019 | 0.002 | 0.039 | 0.002 |
| Magnesium | ICAP | 0.85 J | 0.79 | 3.1 J | 0.88 | U J | 0.71 | U J | 0.68 | 0.71 J | 0.71 | 2.2 J | 0.77 |
| Manganese | ICAP | 0.029 J | 0.015 | 0.087 J | 0.021 | 0.033 J | 0.017 | 0.045 J | 0.016 | 0.039 J | 0.017 | 0.039 J | 0.018 |
| Nickel | ICAP | U J | 0.011 | U J | 0.016 | U J | 0.012 | U J | 0.012 | U J | 0.012 | U J | 0.013 |
| Potassium | ICAP | U J | 0.72 | U J | 0.98 | U J | 0.78 | U J | 0.75 | U J | 0.78 | U J | 0.85 |
| Selenium | AA-Fur | U J | 0.015 | U J | 0.020 | U J | 0.016 | U J | 0.015 | U J | 0.016 | U J | 0.017 |
| Silver | ICAP | U J | 0.005 | U J | 0.007 | U J | 0.005 | U J | 0.005 | U J | 0.005 | U J | 0.006 |
| Sodium | ICAP | U | 0.72 | 1.8 | 0.98 | U | 0.78 | 0.81 | 0.75 | 1.0 | 0.80 | 2.7 | 0.85 |
| Thallium | AA-Fur | U J | 0.007 | U J | 0.009 | U J | 0.007 | U J | 0.007 | U J | 0.008 | U J | 0.008 |
| Vanadium | ICAP | U J | 0.007 | U J | 0.010 | U J | 0.008 | U J | 0.008 | U J | 0.008 | U J | 0.008 |
| Zinc | ICAP | U J | 0.015 | U J | 0.021 | U J | 0.017 | U J | 0.016 | U J | 0.017 | U J | 0.018 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06321 | | 06322 | |
|---|---|---|---|---|---|
| Location | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 3645.5 | | 3890.5 | |
| Date Collected | | 01/25/02 | | 01/25/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U J | 0.17 | 0.20 J | 0.15 |
| Antimony | AA-Fur | U | 0.021 | U | 0.019 |
| Arsenic | AA-Fur | U J | 0.034 | U J | 0.032 |
| Barium | ICAP | U J | 0.088 | U J | 0.081 |
| Beryllium | ICAP | U J | 0.014 | U J | 0.013 |
| Cadmium | ICAP | U J | 0.004 | U J | 0.004 |
| Calcium | ICAP | 1.5 J | 0.97 | 2.8 J | 0.89 |
| Chromium | ICAP | 0.20 J | 0.011 | U J | 0.010 |
| Cobalt | ICAP | U J | 0.009 | 0.009 J | 0.008 |
| Copper | ICAP | U J | 0.12 | U J | 0.11 |
| Iron | ICAP | 0.99 J | 0.25 | U J | 0.23 |
| Lead | AA-Fur | U | 0.003 | 0.005 | 0.003 |
| Magnesium | ICAP | U J | 0.91 | U J | 0.85 |
| Manganese | ICAP | U J | 0.021 | U J | 0.020 |
| Nickel | ICAP | U J | 0.016 | U J | 0.015 |
| Potassium | ICAP | U J | 1.0 | U J | 0.94 |
| Selenium | AA-Fur | U J | 0.021 | U J | 0.019 |
| Silver | ICAP | U J | 0.007 | U J | 0.006 |
| Sodium | ICAP | U | 1.0 | 0.99 | 0.94 |
| Thallium | AA-Fur | U J | 0.010 | U J | 0.009 |
| Vanadium | ICAP | U J | 0.010 | U J | 0.009 |
| Zinc | ICAP | U J | 0.022 | U J | 0.020 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 10, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 910 | 07:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 20.9 | 477.5 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 720 | 06:00 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 16.6 | 192.5 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 910 | 07:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 15.7 | 98.2 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 910 | 07:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 20.7 | 2792.6 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 910 | 07:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 17.5 | 128.4 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 10, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0627 | 0625 | 0628 |
| Stop Time | 1433 | 1445 | 1431 |
| Run Time (minutes) | 486 | 500 | 483 |
| Maximum Concentration ($ug/m^3$) | 38.83 | 39.82 | 40.59 |
| Average Concentration ($ug/m^3$) | 19.82 | 17.56 | 19.75 |

**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/04/02**

| File Name | NYC1454 | NYC1455 | NYC1456 | NYC1457 | NYC1459 | NYC1458 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07679 | A07680 | A07681 | A07682 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/10/02**

| File Name | NYC1506 | NYC1507 | NYC1508 | NYC1509 | NYC1511 | NYC1510 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07703 | A07704 | A07705 | A07706 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ | $ppb_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Friday-Tuesday, April 12-16, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:00 p.m. on April 16**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 69 samples taken in and around ground zero from April 7 through April 9. EPA also sampled for asbestos at two additional lower Manhattan locations on April 3, 5, 6 and 8. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 8,016, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Particulates** - EPA collected samples from April 11 through April 15 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted from April 11 through April 15 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from April 11 through April 15 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

**Dust Sampling for Asbestos** - A total of 10 samples were collected from beams, conduit insulation at both the North and South Tower excavation areas, and from an ongoing asbestos abatement area within ground zero on April 6. One sample, taken from outside the abatement area,

showed an asbestos level of greater than 1%.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 38 samples were collected on April 6 and April 8. All samples were below the school re-entry standard.

**Air Monitoring for Particulates** - There were no significant readings from samples collected on April 11 and April 12.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on on April 3, 5, 6 and 8, at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 199 (3290 48th St., Queens), P.S. 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Tuesday, April 16, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

NYC / ER (Apr 6, 1200 - 2400 hrs)

Results pending.

NYC / ER (Apr 7, 0001 - 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location K) was not collected due to an equipment malfunction.

NYC / ER (Apr 7, 1200 - 2400 hrs)

Results pending.

NYC / ER (Apr 7, 1534 hrs - Apr 8, 1200 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location S) was not collected due to an equipment malfunction.
Note: except for one sample (Location F) this sampling period represents the morning hours of April 8.

NYC / ER (Apr 8, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location N-duplicate) was not collected due to an equipment malfunction.

NYC / ER (Apr 9, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Apr 6, 0647 - 2257 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 7)

Results pending.

Fresh Kills (Apr 8, 0830 hrs - Apr 9, 0545 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: Low sample volume reported.
Note: except for one sample (Location MPHS-20) this sampling period represents April 8.

Fresh Kills (Apr 11) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-5, P-6, and P-8) based on daily average concentrations.
Particulate measurements were not taken at Location P-3 due to an equipment malfunction.

Fresh Kills (Apr 12) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Apr 13 - 14) - Particulate Monitoring (Dataram)

Particulate measurements were not taken due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 3) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 4) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 5 - 6) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 7) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 8) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 11) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 13.36 ug/$m^3$ with a maximum reading of 49.75 ug/$m^3$.
Station N had an average of 21.64 ug/$m^3$ with a maximum reading of 43.34 ug/$m^3$.
Station R had an average of 27.41 ug/$m^3$ with a maximum reading of 45.94 ug/$m^3$.

NYC / ER (Apr 12) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 60.46 ug/$m^3$ with a maximum reading of 103.58 ug/$m^3$.
Station N had an average of 55.73 ug/$m^3$ with a maximum reading of 74.82 ug/$m^3$.
Station R had an average of 53.62 ug/$m^3$ with a maximum reading of 102.68 ug/$m^3$.

NYC / ER (Apr 13) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 45.14 ug/$m^3$ with a maximum reading of 138.50 ug/$m^3$.
Station N had an average of 43.34 ug/$m^3$ with a maximum reading of 127.06 ug/$m^3$.
Station R had an average of 38.43 ug/$m^3$ with a maximum reading of 99.34 ug/$m^3$.

NYC / ER (Apr 14) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 28.60 ug/$m^3$ with a maximum reading of 97.77 ug/$m^3$.
Station N had an average of 28.72 ug/$m^3$ with a maximum reading of 86.44 ug/$m^3$.
Station R had an average of 26.58 ug/$m^3$ with a maximum reading of 124.43 ug/$m^3$.

NYC / ER (Apr 15) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 35.27 ug/$m^3$ with a maximum reading of 121.97 ug/$m^3$.
Station N had an average of 29.77 ug/$m^3$ with a maximum reading of 69.95 ug/$m^3$.
Station R had an average of 27.03 ug/$m^3$ with a maximum reading of 59.05 ug/$m^3$.

NYC / ER (Apr 11) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 12) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 13) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 14) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 15) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected at the Washing Tent, no other volatiles were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Bulk Sampling

NYC / ER (Apr 6) - Asbestos

10 bulk samples collected from from beams (3), conduit insulation (1), and from an ongoing asbestos abatement area within Ground Zero (6).
Asbestos was detected in 1 of the 10 samples (as described below) at greater than 1% amosite.
**1 sample outside the asbestos abatement area identified amosite at 2.00%.**
The abatement area (South Projection Area) is located southwest of the North Tower.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/10/2002**
**Sampling Date and Time: 4/7/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/07/02 | FB040702 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/07/02 | TB040702 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/07/02 | TTW-02332 | W | 1370 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/07/02 | TTW-02333 | Q | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/07/02 | TTW-02334 | Q-Dup | 1380 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/07/02 | TTW-02335 | E | 1170 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/07/02 | TTW-02336 | S | 1410 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02337 | U | 1465.75 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02338 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02340 | D | 1548 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0040 |
| 04/07/02 | TTW-02341 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02342 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02343 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02344 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02345 | F-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02346 | J | 1404 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02347 | N | 1476 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0042 |
| 04/07/02 | TTW-02348 | M1 | 1440 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0043 |
| 04/07/02 | TTW-02349 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

*No Sample was submitted for Location K due to pump fault*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/12/2002**
**Sampling Date and Time:** **4/7/02 1534 to 4/8/02 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 04/07/02 | FB040802 | Field Blank | 0 | Air | <7.0 | n/a | NA(1) | NA(1) | NA(2) | NA(2) |
| 04/07/02 | TB040802 | Trip Blank | 0 | Air | <7.0 | n/a | NA(1) | NA(1) | NA(2) | NA(2) |
| 04/07/02 | TTW-02368 | W | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.30 | <0.0042 |
| 04/07/02 | TTW-02369 | Q | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02370 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02371 | E-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/07/02 | TTW-02373 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02374 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02375 | K | 1150.8 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 04/07/02 | TTW-02376 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02377 | D-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02378 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02379 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02380 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02381 | F | 2452 | Air | <7.0 | <0.001 | 0 | 0 | <16.00 | <0.0025 |
| 04/07/02 | TTW-02382 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02383 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02384 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02385 | L | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |

*No Sample submitted for Location S, due to pump fault*
*Sample for Location F, ran for over 20 hours.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/11/02**
**Sampling Date and Time:** **4/8/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/08/02 | TTW-02387 | O | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02388 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02389 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02390 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02391 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/08/02 | TTW-02392 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02393 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/08/02 | TTW-02394 | C | 1476 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/08/02 | TTW-02395 | C-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02396 | B | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02397 | A | 1440 | Air | 12.74 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02398 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/08/02 | TTW-02399 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/08/02 | TTW-02400 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/08/02 | TTW-02402 | M1 | 1123.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 04/08/02 | TTW-02403 | L | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/08/02 | TTW-02386 | W | 1440 | Air | 10.19 | 0.003 | ***1 | ***1 | 32 | 0.0086 |

*No Sample submitted for Location N-Dup due to pump fault.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/12/2002**
**Sampling Date and Time:** **4/9/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/09/02 | FB040902 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/09/02 | TB040902 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/09/02 | TTW-02404 | W | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02405 | Q | 1584 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0049 |
| 04/09/02 | TTW-02406 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02407 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02408 | S-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02409 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/09/02 | TTW-02410 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02411 | K | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/09/02 | TTW-02412 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02413 | C | 541.2 | Air | <7.0 | <0.005 | 0 | 0 | <8.00 | <0.0057 |
| 04/09/02 | TTW-02414 | C-Dup | 1440 | Air | 12.1 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02415 | B | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/09/02 | TTW-02416 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02417 | F | 1440 | Air | 7.01 | 0.002 | ***1 | 0 | 16 | 0.0043 |
| 04/09/02 | TTW-02418 | J | 1512 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/09/02 | TTW-02419 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02420 | M1 | 1272 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0048 |
| 04/09/02 | TTW-02421 | L | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/6/02 0647 to 2257

**Data Validation Date: 04/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/06/02 | LF03884 | P-1 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/06/02 | LF03885 | P-2 | 943.50 | Air | <7.0 | <0.003 | 0 | 0 | <11.25 | <0.0046 |
| 04/06/02 | LF03886 | P-3 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03887 | P-4 | 1004.70 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0050 |
| 04/06/02 | LF03888 | P-5 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03889 | P-6 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03890 | P-7 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03891 | P-8 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03892 | W-12A | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03893 | W-12B | 1296.00 | Air | <7.0 | <0.002 | ***3 | ***1 | 52.49 | 0.0156 |
| 04/06/02 | LF03894 | B-13 | 1247.40 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/06/02 | LF03895 | B-14 | 1296.00 | Air | <7.0 | <0.002 | ***2 | 0 | 26.25 | 0.0078 |
| 04/06/02 | LF03896 | T-15 | 1296.00 | Air | 19.11 | 0.006 | ***1 | ***1 | 26.25 | 0.0078 |
| 04/06/02 | LF03897 | T-16 | 1224.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0041 |
| 04/06/02 | LF03898 | O-17 | 1144.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/06/02 | LF03900 | O-18 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0039 |
| 04/06/02 | LF03901 | O-19 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/06/02 | LF03902 | MPHS-20 | 1074.40 | Air | <7.0 | <0.003 | ***3 | ***1 | 52.49 | 0.0188 |
| 04/06/02 | LF03903 | P-1 Dup | 1016.60 | Air | <7.0 | <0.003 | ***2 | *****1 | 39.37 | 0.0149 |
| 04/06/02 | LF03904 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/06/02 | LF03905 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-06-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** **4/8/02 0830 to 4/9/02 0545**

**Data Validation Date: 04/10/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/08/02 | LF03927 | P-1 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/08/02 | LF03928 | P-2 | 1357.20 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0045 |
| 04/08/02 | LF03929 | P-3 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/08/02 | LF03930 | P-4 | 1548.00 | Air | <7.0 | <0.002 | 0 | 0 | <19.69 | <0.0049 |
| 04/08/02 | LF03931 | P-5 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/08/02 | LF03932 | P-6 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/08/02 | LF03933 | P-7 | 243.95 | Air | <7.0 | <0.011 | 0 | 0 | <7.87 | <0.0124 |
| 04/08/02 | LF03934 | P-8 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/08/02 | LF03935 | W-12A | 1296.00 | Air | 49.68 | 0.015 | 0 | 0 | <15.75 | <0.0047 |
| 04/08/02 | LF03936 | W-12B | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/08/02 | LF03937 | B-13 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/08/02 | LF03938 | B-14 | 1132.20 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/08/02 | LF03939 | T-15 | 1296.00 | Air | 15.29 | 0.005 | 0 | 0 | <15.75 | <0.0047 |
| 04/08/02 | LF03940 | T-16 | 1224.00 | Air | 26.75 | 0.008 | 0 | 0 | <15.75 | <0.0050 |
| 04/08/02 | LF03941 | O-17 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/08/02 | LF03942 | O-18 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/08/02 | LF03943 | O-19 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/08/02 | LF03944 | MPHS-20 | 2664.90 | Air | <7.0 | <0.001 | 0 | 0 | <19.69 | <0.0028 |
| 04/08/02 | LF03945 | P-7 Dup | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/08/02 | LF03946 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/08/02 | LF03947 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

*Note: Sample for Location MPHS-20 ran for over 21 hours*

**Key:**

* Some sample volume (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-08-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 4/3/02 1200 to 2400**

**Data Validation Date: 4/12/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/03/02 | 7093-18-0188 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | 7093-19-0188 | Chambers Street | 1272 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/03/02 | 7093-15-0186 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | 7094-09-0174 | P.S. 154 (Bronx) | 1232 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0050 |
| 04/03/02 | 7096-12-0182 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/03/02 | 7095-98-0182 | P.S. 274 (Brooklyn) | 1160 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/03/02 | 7097-18-0179 | P.S. 44 (S I) | 760 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0041 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 4/5/02 1200 to 2400**

**Data Validation Date: 4/12/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/05/02 | 7093-18-0190 | Park Row | 1402 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/05/02 | 7093-19-0190 | Chambers Street | 1354 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/05/02 | 7093-15-0188 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | 7094-09-0176 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/05/02 | 7096-12-0184 | P.S. 199 (Queens) | 1366 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/05/02 | 7095-98-0184 | P.S. 274 (Brooklyn) | 1016 | Air | <7.0 | <0.003 | 0 | 0 | <11.43 | <0.0043 |
| 04/05/02 | 7097-18-0181 | P.S. 44 (S I) | 706 | Air | <7.0 | <0.004 | 0 | 0 | <8.89 | <0.0048 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/12/02**
**Sampling Date and Time: 4/6/02 1200 to 2400**

| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| | | | | | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 04/06/02 | 7093-18-0191 | Park Row | 1226 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 04/06/02 | 7093-19-0191 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <20.00 | <0.0053 |
| 04/06/02 | 7093-15-0189 | I.S. 143 Manhattan | 1358 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/06/02 | 7094-09-0177 | P.S. 154 (Bronx) | 1378 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/06/02 | 7096-12-0185 | P.S. 199 (Queens) | 1256 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0049 |
| 04/06/02 | 7095-98-0185 | P.S. 274 (Brooklyn) | 1340 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/06/02 | 7097-18-0182 | P.S. 44 (S I) | 1294 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 4/8/02 1200 to 2400**

**Data Validation Date: 4/14/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S~f/cc** |
| 04/08/02 | 7093-18-0193 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/08/02 | 7093-19-0193 | Chambers Street | 1164 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0052 |
| 04/08/02 | 7093-15-0191 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/08/02 | 7094-09-0179 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0035 |
| 04/08/02 | 7096-12-0187 | P.S. 199 (Queens) | 1314 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/08/02 | 7095-98-0187 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/08/02 | 7097-18-0184 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Bulk Sampling Results for WTC NYC**
**Sampling Date :** 4/6/02

| | | | | PLM by ELAP 198.1 | | |
|---|---|---|---|---|---|---|
| **Sampling Date** | **Sample No.** | **Sampling Location** | **Matrix** | **Asbestos % Type** | **% Fibrous** | **% Non-Fibrous** |
| 04/06/02 | Bulk-00050 | South Projection Area | Soil | None Detected | 20.00% Cellulose | 80.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00051 | South Projection Area | Soil | None Detected | 25.00% Cellulose | 75.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00052 | South Projection Area | Soil | None Detected | 30.00% Cellulose | 70.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00053 | South Projection Area | Soil | None Detected | 25.00% Cellulose | 75.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00054 | South Projection Area | Soil | None Detected | 25.00% Cellulose | 75.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00055 | South Projection Area | Soil | 2.00% Amosite | 20.00% Cellulose | 78.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00056 | South Projection Area | Soil | None Detected | 80.00% Min. Wool | 20.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00057 | South Projection Area | Soil | None Detected | 80.0% Min. Wool<br>1.0 % Cellulose | 19.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00058 | South Projection Area | Soil | None Detected | 80.0% Min. Wool<br>1.0 % Cellulose | 19.00% Other (Non Fibrous) |
| 04/06/02 | Bulk-00059 | South Projection Area | Soil | None Detected | 70.00% Glass | 30.00% Other (Non Fibrous) |

**Polarized Light Microscopy (PLM) - Point Count by ELAP method 198.1**

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
April 12, 2002

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 880 | 07:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 49.7 | 170.6 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 880 | 07:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 52.4 | 272.7 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 880 | 07:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 20.2 | 573.1 |
| 6 | 74.207406 | 40.563818 | D088 | 1 | 880 | 07:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 42.7 | 161.1 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D065 | 1 | 880 | 07:20 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 63.6 | 473.5 |

Note: Due to afternoon showers DataRams did not run a full 8 hours.

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 11, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D088 | 1 | 968 | 08:04 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.9 | 573.6 |
| 3 | 74.198685 | 40.570054 | D074 | 1 | ---- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D075 | 1 | 942 | 07:51 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.9 | 628.0 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 972 | 08:06 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 51.6 | 701.6 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D089 | 1 | 974 | 08:07 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.1 | 155.6 |

Note: Due to equipment failure there was no data logged for perimeter location 3.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 15, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0646 | 0650 | 0644 |
| Stop Time | 1443 | 1448 | 1442 |
| Run Time (minutes) | 477 | 478 | 478 |
| Maximum Concentration ($ug/m^3$) | 121.97 | 69.95 | 59.05 |
| Average Concentration ($ug/m^3$) | 35.27 | 29.77 | 27.03 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 12, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0632 | 0635 | 0630 |
| Stop Time | 1441 | 1423 | 1449 |
| Run Time (minutes) | 489 | 468 | 499 |
| Maximum Concentration ($ug/m^3$) | 103.58 | 74.82 | 102.68 |
| Average Concentration ($ug/m^3$) | 60.46 | 55.73 | 53.62 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 13, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0649 | 0655 | 0646 |
| Stop Time | 1506 | 1503 | 1508 |
| Run Time (minutes) | 497 | 488 | 502 |
| Maximum Concentration ($ug/m^3$) | 138.50 | 127.06 | 99.34 |
| Average Concentration ($ug/m^3$) | 45.14 | 43.34 | 38.43 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 14, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0631 | 0638 | 0628 |
| Stop Time | 1448 | 1445 | 1451 |
| Run Time (minutes) | 497 | 487 | 503 |
| Maximum Concentration ($ug/m^3$) | 97.77 | 86.44 | 124.43 |
| Average Concentration ($ug/m^3$) | 28.60 | 28.72 | 26.58 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 11, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0647 | 0646 | 0650 |
| Stop Time | 1504 | 1503 | 1507 |
| Run Time (minutes) | 497 | 497 | 497 |
| Maximum Concentration ($ug/m^3$) | 49.75 | 43.34 | 45.94 |
| Average Concentration ($ug/m^3$) | 13.36 | 21.64 | 27.41 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/15/02**

| File Name | NYC1546 | NYC1547 | NYC1548 | NYC1549 | NYC1551 | NYC1550 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07723 | A07724 | A07725 | A07726 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | 32 | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/14/02**

| File Name | NYC1538 | NYC1539 | NYC1540 | NYC1541 | NYC1543 | NYC1542 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07719 | A07720 | A07721 | A07722 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/13/02**

| File Name | NYC1530 | NYC1531 | NYC1532 | NYC1533 | NYC1535 | NYC1534 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07715 | A07716 | A07717 | A07718 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/12/02**

| File Name | NYC1522 | NYC1523 | NYC1524 | NYC1525 | NYC1527 | NYC1526 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07711 | A07712 | A07713 | A07714 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethene | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/11/02**

| File Name | NYC1514 | NYC1515 | NYC1516 | NYC1517 | NYC1519 | NYC1518 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07707 | A07708 | A07709 | A07710 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Wednesday, April 17, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 5:15 p.m. on April 17**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 108 samples taken in and around ground zero from April 9 through April 12. EPA also sampled for asbestos at two additional lower Manhattan locations on April 9. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 8,126, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Particulates** - EPA collected samples on April 16 and April 17 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for Dioxin** - A total of 10 samples were collected on March 27 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Air Sampling for Metals** - A total of 10 samples were collected on January 22 at various locations in Lower Manhattan. Metals in all samples were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.

**Air Sampling for PCB's** - A total of 10 samples were collected on March 19 at several locations in Lower Manhattan. PCB's were not detected.

**Air Sampling for PAH's** - A total of 30 samples were collected on March 21, 27, and 29 at several locations in Lower Manhattan. PAH's were not detected.

**Air Sampling for Silicates** - A total of 20 samples were collected on April 2 and April 4 at several locations in Lower Manhattan. Silicates were either not detected, or were below the NIOSH Recommended Exposure Limit (REL) time-weighted average of 0.05 $mg/m^3$.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 16 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 16 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 38 samples were collected on April 10, 11 and 12. All samples were below the school re-entry standard.

**Air Sampling for Particulates** - There were no significant readings from samples collected on April 16.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on on April 9 at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 199 (3290 48th St., Queens), P.S. 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Wednesday, April 17, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

NYC / ER (Apr 6, 1200 - 2400 hrs)

Results pending.

NYC / ER (Apr 7, 1200 - 2400 hrs)

Results pending.

NYC / ER (Apr 9, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 10, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 10, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 11, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 11, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 12, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Apr 7)

Results pending.

Fresh Kills (Apr 9)

Results pending.

Fresh Kills (Apr 10, 0740 hrs - Apr 11, 0719 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: except for one sample (Location P-5) this sampling period represents April 10.

Fresh Kills (Apr 11, 0745 hrs - Apr 12, 0451 hrs)

All 19 samples analyzed were below the TEM AHERA standard.
Note: except for two samples (Locations B-14 and MPHS-20) this sampling period represents April 11.

Fresh Kills (Apr 15) - Particulate Monitoring (Dataram)

Particulate measurements were not taken due to weather conditions.

Fresh Kills (Apr 16) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (March 27) - Dioxin

All 10 samples collected were below the EPA Removal Action level guideline (based on a 30-year exposure).
Note: Dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.

NYC / ER (Jan 22) - Metals

10 samples collected.
All other metals were either not detected or were below applicable EPA Removal Action level guidelines, OSHA PELs, and the NAAQS for lead.
Note: Elevated levels of lead identified in the quality control (QC) samples (blanks) indicate that lead is not present in the samples collected at Locations P and R at levels sufficiently above those in the control samples to be considered valid results.

NYC / ER (Mar 21) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 27) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 29) - PAHs

All 10 samples analyzed did not detect any PAHs.

NYC / ER (Mar 19) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Apr 2) - Silicates

All 10 samples analyzed did not detect any silicates.

NYC / ER (Apr 4) - Silicates

All 10 samples either did not detect any silicates or were below the NIOSH Recommended Exposure Limit (REL) TWA of 0.05 $mg/m^3$.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 4) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 7) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 9) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:

- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 16) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 49.78 ug/$m^3$ with a maximum reading of 80.52 ug/$m^3$.
Station N had an average of 50.79 ug/$m^3$ with a maximum reading of 94.34 ug/$m^3$.
Station R had an average of 52.59 ug/$m^3$ with a maximum reading of 109.75 ug/$m^3$.

NYC / ER (Apr 17) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Station L had an average of 76.27 ug/$m^3$ with a maximum reading of 1,476.48 ug/$m^3$.
Station N had an average of 77.21 ug/$m^3$ with a maximum reading of 184.54 ug/$m^3$.
Station R had an average of 97.15 ug/$m^3$ with a maximum reading of 38.34 ug/$m^3$.

NYC / ER (Apr 16) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected at the South Tower, no other volatiles were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/13/02**
**Sampling Date and Time:** **4/9/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S-f/cc** |
| 04/09/02 | TTW-02422 | Q | 1440 | Air | 10.83 | 0.003 | ***1 | 0 | 16 | 0.0043 |
| 04/09/02 | TTW-02423 | W | 1332 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0046 |
| 04/09/02 | TTW-02424 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/09/02 | TTW-02425 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02426 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02427 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02428 | K | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/09/02 | TTW-02429 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02430 | C | 1512 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/09/02 | TTW-02431 | B | 1404 | Air | 12.1 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 04/09/02 | TTW-02432 | A | 1440 | Air | 12.74 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02433 | A-Dup | 1404 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0044 |
| 04/09/02 | TTW-02434 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02435 | F-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02436 | J | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02437 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/09/02 | TTW-02438 | M1 | 1318.2 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/09/02 | TTW-02439 | L | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/13/2002**
**Sampling Date and Time:** **4/10/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S-f/cc** |
| 04/10/02 | FB041002 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/10/02 | TB041002 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/10/02 | TTW-02440 | W | 1404 | Air | 12.74 | 0.003 | ***2 | ***1 | 48 | 0.0132 |
| 04/10/02 | TTW-02441 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/10/02 | TTW-02442 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02443 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02444 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02445 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02446 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02447 | D | 1440 | Air | 8.92 | 0.002 | 0 | ***1 | 16 | 0.0043 |
| 04/10/02 | TTW-02448 | C | 1440 | Air | 15.29 | 0.004 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02449 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/10/02 | TTW-02450 | B-Dup | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02451 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02452 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02453 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/10/02 | TTW-02454 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/10/02 | TTW-02455 | M1 | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/10/02 | TTW-02456 | M1-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | TTW-02457 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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**Key:**
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** Structure (S) is roughly equivalent to fiber (f)
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**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/14/02**
**Sampling Date and Time:** **4/10/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/10/02 | TTW-02458 | W | 1404 | Air | 17.83 | 0.005 | 0 | 0 | <15.75 | <0.0043 |
| 04/10/02 | TTW-02459 | Q | 1404 | Air | 8.92 | 0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/10/02 | TTW-02460 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02461 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02462 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02463 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/10/02 | TTW-02464 | K | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/10/02 | TTW-02465 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/10/02 | TTW-02466 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/10/02 | TTW-02467 | B | 1476 | Air | <7.0 | <0.002 | ***1 | ***1 | 31.5 | 0.0082 |
| 04/10/02 | TTW-02468 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02469 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02470 | J | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0039 |
| 04/10/02 | TTW-02471 | J-Dup | 1152 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/10/02 | TTW-02472 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | TTW-02473 | M1 | 1310 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/10/02 | TTW-02474 | L | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/10/02 | TTW-02475 | L-Dup | 1548 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0039 |

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**Key:**
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/14/2002**
**Sampling Date and Time:** **4/11/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/11/02 | FB041102 | Field Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/11/02 | TB041102 | Trip Blank | 0 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/11/02 | TTW-02476 | W | 1440 | Air | 17.83 | 0.005 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02477 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02478 | Q-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/11/02 | TTW-02479 | E | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/11/02 | TTW-02480 | E-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02481 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/11/02 | TTW-02482 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/11/02 | TTW-02483 | V | 1302 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | TTW-02484 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02485 | D | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/11/02 | TTW-02486 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02487 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02488 | A | 1476 | Air | 11.46 | 0.003 | 0 | 0 | <15.75 | <0.0041 |
| 04/11/02 | TTW-02489 | F | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/11/02 | TTW-02490 | J | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/11/02 | TTW-02491 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | TTW-02492 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0041 |
| 04/11/02 | TTW-02493 | L | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/14/02**
**Sampling Date and Time:** **4/11/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | 0.5µ - 5µ | 5µ | S/mm² | S--f/cc** |
| 04/11/02 | TTW-02494 | W | 1476 | Air | 26.75 | 0.007 | ***4 | 0 | 64 | 0.0167 |
| 04/11/02 | TTW-02495 | Q | 1440 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02496 | E | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/11/02 | TTW-02497 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02498 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02499 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02500 | K | 1121.35 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0046 |
| 04/11/02 | TTW-02501 | D | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02502 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02503 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/11/02 | TTW-02504 | B-Dup | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02505 | A | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/11/02 | TTW-02506 | A-Dup | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02507 | F | 1226 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 04/11/02 | TTW-02508 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/11/02 | TTW-02509 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | TTW-02510 | M1 | 1226.4 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 04/11/02 | TTW-02511 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/14/2002**
**Sampling Date and Time:** **4/12/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5μ - 5μ | 5μ | S/mm$^2$ | S--f/cc** |
| 04/12/02 | FB041202 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/12/02 | TB041202 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/12/02 | TTW-02512 | W | 1368 | Air | 20.38 | 0.006 | 0 | 0 | <16.00 | <0.0045 |
| 04/12/02 | TTW-02513 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/12/02 | TTW-02514 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02515 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02516 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/12/02 | TTW-02517 | U-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/12/02 | TTW-02518 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/12/02 | TTW-02519 | V-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/12/02 | TTW-02520 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02521 | D | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/12/02 | TTW-02522 | C | 1440 | Air | 7.54 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02523 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02524 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02525 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02526 | J | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/12/02 | TTW-02527 | N | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/12/02 | TTW-02528 | M1 | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/12/02 | TTW-02529 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-04-12-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/10/02 0740 to 4/11/02 0719 **Data Validation Date: 04/13/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/10/02 | LF03969 | P-1 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/10/02 | LF03970 | P-2 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/10/02 | LF03971 | P-3 | 1332.00 | Air | <7.0 | <0.002 | ***1 | 0 | 15.75 | 0.0046 |
| 04/10/02 | LF03972 | P-4 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/10/02 | LF03973 | P-5 | 2588.00 | Air | <7.0 | <0.001 | 0 | 0 | <19.69 | <0.0029 |
| 04/10/02 | LF03974 | P-6 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03975 | P-7 | 1512.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0040 |
| 04/10/02 | LF03976 | P-8 | 1158.85 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/10/02 | LF03977 | W-12A | 1296.00 | Air | 42.04 | 0.012 | ***1 | ***1 | 31.5 | 0.0094 |
| 04/10/02 | LF03978 | W-12B | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03979 | B-13 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03980 | B-14 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03981 | T-15 | 1296.00 | Air | 30.57 | 0.009 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03982 | T-16 | 1296.00 | Air | 30.57 | 0.009 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03983 | O-17 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0050 |
| 04/10/02 | LF03984 | O-18 | 1169.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/10/02 | LF03985 | O-19 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03986 | MPHS-20 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 04/10/02 | LF03987 | W-12A Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/10/02 | LF03988 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/10/02 | LF03989 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

*Please note that Sample # P-5 Ran for over 21 hours.*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method: volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-10-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/11/02 0745 to 4/12/02 0451

**Data Validation Date: 04/14/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/11/02 | LF03990 | P-1 | 1404.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0043 |
| 04/11/02 | LF03991 | P-2 | 1134.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/11/02 | LF03992 | P-3 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF03993 | P-4 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/11/02 | LF03994 | P-5 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/11/02 | LF03995 | P-6 | 1048.25 | Air | <7.0 | <0.003 | 0 | 0 | <13.12 | <0.0048 |
| 04/11/02 | LF03996 | P-7 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF03997 | P-8 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/11/02 | LF03998 | W-12A | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/11/02 | LF03999 | W-12B | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF04000 | B-13 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF04001 | B-14 | 2053.80 | Air | <7.0 | <0.001 | 0 | 0 | <15.75 | <0.0030 |
| 04/11/02 | LF04002 | T-15 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/11/02 | LF04003 | T-16 | 1440.00 | Air | 20.38 | 0.005 | 0 | 0 | <15.75 | <0.0042 |
| 04/11/02 | LF04004 | O-17 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/11/02 | LF04005 | O-18 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF04006 | O-19 | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/11/02 | LF04007 | MPHS-20 | 2278.80 | Air | <7.0 | <0.001 | 0 | 0 | <15.75 | <0.0027 |
| 04/11/02 | LF04008 | P-8 Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/11/02 | LF04009 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/11/02 | LF04010 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |

*Please note that Sample for Location MHHS-20 Ran for over 21 hours.*
*Please note that Sample for Location B-14 Ran for over 19 hours.*

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA [1] - Not analyzed due to overloading of particulates
NA [2] - Not analyzed for TEM
NA [3] - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-11-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/14/02**
**Sampling Date and Time:** **4/9/02** **1200 to 2309**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S=f/cc** |
| 04/09/02 | 7093-18-0194 | Park Row | 1300 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/09/02 | 7093-19-0194 | Chambers Street | 1240 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0041 |
| 04/09/02 | 7093-15-0192 | I.S. 143 Manhattan | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 04/09/02 | 7094-09-0180 | P.S. 154 (Bronx) | 1310 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/09/02 | 7096-12-0188 | P.S. 199 (Queens) | 1338 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/09/02 | 7095-98-0188 | P.S. 274 (Brooklyn) | 1052 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 04/09/02 | 7097-18-0185 | P.S. 44 (S I) | 872 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0039 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 4/9/02 1200 to 2309**

**Data Validation Date: 4/14/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 04/09/02 | 7093-18-0194 | Park Row | 1300 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/09/02 | 7093-19-0194 | Chambers Street | 1240 | Air | 11.46 | 0.004 | 0 | 0 | <13.33 | <0.0041 |
| 04/09/02 | 7093-15-0192 | I.S. 143 Manhattan | 1116 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0046 |
| 04/09/02 | 7094-09-0180 | P.S. 154 (Bronx) | 1310 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/09/02 | 7096-12-0188 | P.S. 199 (Queens) | 1338 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/09/02 | 7095-98-0188 | P.S. 274 (Brooklyn) | 1052 | Air | 7.64 | 0.003 | 0 | 0 | <13.33 | <0.0049 |
| 04/09/02 | 7097-18-0185 | P.S. 44 (S I) | 872 | Air | <7.0 | <0.003 | 0 | 0 | <8.89 | <0.0039 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

The following table is a summary of the air sampling data inside the three buildings to date. Sampling done on 11-29-01, 12-17-01, and 1-22-02 was done by the Nassau County Health Department. All other samples were taken by US EPA. Samples after 1-21-02 reflect conditions in Tutor Time after the air quality improvement measures were operating. ND denotes "non-detect" and indicates that the compound was not detected at the analytical detection limit in that sample. NS denotes "No Sample" and indicates that a sample was not taken in that location. Two results in one cell indicate that duplicate samples were taken in that location for quality control purposes. Additionally, not every compound was analyzed for during every sampling date. Therefore, some compounds are reported for multiple dates, while others for only one date.

| | tetrachloroethylene (PCE) | | | | | bromoform | | napthalene | 1,2-dichloroethane | | dichlorobenzene | | ethyl benzene | xylene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11-29-01 | 12-17-01 | 01-22-02 | 01-24-02 | 02-14-02 | 01-24-02 | 02-14-02 | 02-14-02 | 01-24-02 | 02-14-02 | 01-24-02 | 02-14-02 | 02-14-02 | 02-14-02 |
| Infant Care Room | NS | 91 | 21 | 20.7 / 13.3 | 21.4 / 16.5 | ND | ND | ND | 33.1 | ND / 33.7 | ND | ND | ND | ND |
| Infant Care Room / Newborn | NS | 90 | 28 | 9.9 | 18.0 B | ND | ND | ND | 39.1 | ND | ND | ND | ND | ND |
| Toddler Classroom | NS | 130 | 16 / 16 | 7.1 | 11.5 | ND | ND | ND | 52.4 | 33.6 | ND | ND | ND | 33.6 |
| Playground | 60 | 150 | 18 | 7.0 / 7.5 | 16.7 / 15.7 B | ND | ND | ND | 32.46 / ND | 33.8 / 34.2 | ND | 67.5 / ND | 16.9 / ND | 110 / 85.6 |
| Learning Center | 81 | 230* | 27 | 10.8 | 18.9 | ND | ND | ND | ND | 41.3 | ND | 99.1 | ND | ND |
| Pookies Café | 78 | 260 | 28 | 11.1 / 9.6 | 17.7 B / 17.5 | ND | ND | 143.0 / 106.0 | ND | 42.0 / 40.7 | ND | 143.0 / ND | ND | ND |
| Twaddler Classroom | NS | NS | 32 / 32 | 13.0 | 21.2 | ND | ND | ND | ND | 34.8 | ND | 130.4 | ND | ND |
| Learning Center (Northwest Room) | 49 | 66 / 63 | 14 | 8.6 | 9.9 B | ND | ND | 133.8 | ND | ND | ND | 164.7 | ND | ND |
| Learning Village | NS | 90 | 21 | NS | 13.8 | NS | ND | 71.2 | NS | 23.7 | NS | 134.4 | ND | ND |
| Learning Center (Southwest Room) | NS | 64 / 67 | 21 / 21 | 13.9 | 14.3 B | 246.93 | ND | 176.7 | ND | ND | ND | 160.6 | ND | ND |
| Reception Area | NS | NS | NS | NS | 11.3 B | NS | ND | 101.1 | NS | 31.1 | NS | 124.4 | ND | ND |
| Laundry / Utility Room | NS | 46* | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| South Side of the Bldg. (Outdoor) | NS | NS | NS | 2.0 B | 2.9 B | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| North Side of the Bldg. (Outdoor) | 5 | <5 | <5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Shooters Billiards Parlor | NS | NS | NS | 169 | NS | ND | NS | NS | ND | NS | ND | NS | NS | NS |
| Shooters Billiards Parlor | NS | NS | <5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Sanders & Sanders | NS | NS | NS | NS | 19.8 B | NS | ND | 126.8 | NS | 48.8 | NS | 107.3 | ND | ND |
| Ian McGregors - Kitchen | NS | 18/18 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Ian McGregors - Under Bar Floor Drain | NS | 18 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Results suspicious as the badge was not properly sealed.

B - Possible breakthrough or migration

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/19/02**

| Sample No. | WG-7167-1P | | 06799 | | 06800 | | 06801 | | 06802 | | 06803 | | 06804 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | S | | D | |
| Sample Volume (L) | 0 | | 7200 | | 7080 | | 7470 | | 7290 | | 9720 | | 6015 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of MoCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of DiCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of TrCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of TeCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of PeCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of HxCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of HpCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of OcCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Sum of NoCBs | U | 10.0 | U | 1.39 | U | 1.41 | U | 1.34 | U | 1.37 | U | 1.03 | U | 1.66 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/19/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 4/10/02

3-19-02PCBair.xls

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/19/02**

| Sample No. | 06805 | | 06806 | | 06807 | | 06808 | | 06809 | | 06810 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 6315 | | 6315 | | 6945 | | 6375 | | 0 | | 0 | |
| Analyte | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng/m$^3$ | MDL ng/m$^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DeCB | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.58 | U | 1.58 | U | 1.44 | U | 1.57 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/19/02-Dioxin

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236; WTC ER Site

| Date Sampled 03/21/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06913 | | 06914 | | 06915 | | 06916 | | 06917 | |
| Sampling Location | Location R | | Location E | | Location P | | Location S | | Location S | |
| Volume (L) | 803.7 | | 795.6 | | 838.5 | | 887.25 | | 910.65 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.8 | U | 1.7 | U | 1.6 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.4 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.6 | U | 1.5 | U | 1.5 | U | 1.4 |
| Biphenyl | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 |
| Acenaphthylene | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.4 | U | 1.3 |
| Acenaphthene | U | 1.5 | U | 1.5 | U | 1.4 | U | 1.3 | U | 1.3 |
| Dibenzofuran | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 |
| Fluorene | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 |
| Phenanthrene | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.1 |
| Anthracene | U | 1.3 | U | 1.3 | U | 1.2 | U | 1.2 | U | 1.1 |
| Carbazole | U | 1.4 | U | 1.4 | U | 1.3 | U | 1.2 | U | 1.2 |
| Fluoranthene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.0 |
| Pyrene | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.0 |
| Benzo[a]anthracene | U | 1.0 | U | 1.0 | U | 0.96 | U | 0.91 | U | 0.88 |
| Chrysene | U | 1.0 | U | 1.0 | U | 0.96 | U | 0.91 | U | 0.88 |
| Benzo[b]fluoranthene | U | 0.91 | U | 0.91 | U | 0.87 | U | 0.82 | U | 0.80 |
| Benzo[k]fluoranthene | U | 0.91 | U | 0.91 | U | 0.87 | U | 0.82 | U | 0.80 |
| Benzo[e]pyrene | U | 0.91 | U | 0.91 | U | 0.87 | U | 0.82 | U | 0.80 |
| Benzo[a]pyrene | U | 0.91 | U | 0.91 | U | 0.87 | U | 0.82 | U | 0.80 |
| Indeno(1,2,3-c,d)pyrene | U | 0.83 | U | 0.84 | U | 0.79 | U | 0.75 | U | 0.73 |
| Dibenzo[a,h]anthracene | U | 0.82 | U | 0.83 | U | 0.79 | U | 0.74 | U | 0.72 |
| Benzo[g,h,i]perylene | U | 0.83 | U | 0.84 | U | 0.79 | U | 0.75 | U | 0.73 |

COC: 03/21/02-PAHs ERT: 4/10/02

U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-21-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/21/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06918 | | 06919 | | 06920 | | 06921 | | 06922 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| Volume (L) | 750.75 | | 886.78 | | 924 | | 779 | | 783.48 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.9 | U | 1.6 | U | 1.6 | U | 1.8 | U | 1.8 |
| 2-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.7 | U | 1.6 |
| 1-Methylnaphthalene | U | 1.7 | U | 1.5 | U | 1.4 | U | 1.7 | U | 1.6 |
| Biphenyl | U | 1.6 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.5 |
| 2,6-Dimethylnaphthalene | U | 1.6 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.5 |
| Acenaphthylene | U | 1.6 | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.5 |
| Acenaphthene | U | 1.6 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.5 |
| Dibenzofuran | U | 1.5 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.4 |
| Fluorene | U | 1.5 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.4 |
| Phenanthrene | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.3 |
| Anthracene | U | 1.4 | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.3 |
| Carbazole | U | 1.5 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.4 |
| Fluoranthene | U | 1.2 | U | 1.0 | U | 0.98 | U | 1.2 | U | 1.2 |
| Pyrene | U | 1.2 | U | 1.0 | U | 0.98 | U | 1.2 | U | 1.2 |
| Benzo[a]anthracene | U | 1.1 | U | 0.91 | U | 0.87 | U | 1.0 | U | 1.0 |
| Chrysene | U | 1.1 | U | 0.91 | U | 0.87 | U | 1.0 | U | 1.0 |
| Benzo[b]fluoranthene | U | 0.97 | U | 0.82 | U | 0.79 | U | 0.93 | U | 0.93 |
| Benzo[k]fluoranthene | U | 0.97 | U | 0.82 | U | 0.79 | U | 0.93 | U | 0.93 |
| Benzo[e]pyrene | U | 0.97 | U | 0.82 | U | 0.79 | U | 0.93 | U | 0.93 |
| Benzo[a]pyrene | U | 0.97 | U | 0.82 | U | 0.79 | U | 0.93 | U | 0.93 |
| Indeno(1,2,3-c,d)pyrene | U | 0.89 | U | 0.75 | U | 0.72 | U | 0.85 | U | 0.85 |
| Dibenzo[a,h]anthracene | U | 0.88 | U | 0.74 | U | 0.71 | U | 0.85 | U | 0.84 |
| Benzo[g,h,i]perylene | U | 0.89 | U | 0.75 | U | 0.72 | U | 0.85 | U | 0.85 |

COC: 03/21/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-21-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in A
WA# 0-236: WTC ER Site

| Date Sampled 03/21/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06923 | | 06924 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/21/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-21-02PAH.xls

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 04/2/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 4/2/02 | TTWS-0190 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0189 | 3A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0188 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0187 | B | 990 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0186 | C | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0185 | D | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0182 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0184 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0183 | S | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/2/02 | TTWS-0181 | R | 950 | Air | <0.01 | <0.02 | <0.02 |

c# 04/2/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 4/09/02

**NIOSH 7500: Silica crystalline by XRD**

FL-04-2-02silica.xls

Table 1.0 Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06724 | | 06724 | | 06724 | | 06273 | | 06263 | | 06264 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Lot Blank 1 | | Lot Blank 2 | | Lot Blank 3 | | Field Blank | | Location R | | Location A | |
| Air Volume (L) | | | | | | | | 0 | | 5050 | | 4360 | |
| Date Collected | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | |
| Parameter | Analysis Method | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/filter | MDL µg/filter | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | 1.3 | 0.60 | 1.1 | 0.60 | 1.1 | 0.60 | U | 0.60 | U | 0.12 | U | 0.15 |
| Antimony | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | 0.019 | 0.015 | U | 0.017 |
| Arsenic | AA-Fur | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.006 | U | 0.007 |
| Barium | ICAP | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.062 | U | 0.072 |
| Beryllium | ICAP | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.049 | U | 0.010 | U | 0.011 |
| Cadmium | ICAP | 0.020 | 0.016 | U | 0.016 | U | 0.016 | U | 0.016 | U | 0.003 | U | 0.004 |
| Calcium | ICAP | 6.6 | 3.5 | U | 3.5 | 3.6 | 3.5 | U | 3.5 | U | 0.69 | 5.5 | 0.76 |
| Chromium | ICAP | 1.7 | 0.042 | 0.92 | 0.042 | 0.55 | 0.042 | U | 0.042 | U | 0.008 | U | 0.009 |
| Cobalt | ICAP | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.007 | U | 0.008 |
| Copper | ICAP | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.44 | U | 0.088 | 0.10 | 0.10 |
| Iron | ICAP | 0.99 | 0.90 | U | 0.90 | U | 0.90 | U | 0.90 | U | 0.18 | 4.5 | 0.19 |
| Lead | AA-Fur | 0.11 | 0.010 | U | 0.009 | U | 0.009 | U | 0.009 | 0.004 | 0.002 | 0.041 | 0.002 |
| Magnesium | ICAP | U | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U | 0.66 | 1.0 | 0.71 |
| Manganese | ICAP | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.015 | 0.061 | 0.020 |
| Nickel | ICAP | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.058 | U | 0.011 | U | 0.013 |
| Potassium | ICAP | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 0.73 | U | 0.84 |
| Selenium | AA-Fur | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.075 | U | 0.015 | U | 0.017 |
| Silver | ICAP | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.025 | U | 0.005 | U | 0.006 |
| Sodium | ICAP | 13 | 3.7 | 13 | 3.7 | 16 | 3.7 | U | 3.7 | U | 0.73 | U | 0.79 |
| Thallium | AA-Fur | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.034 | U | 0.007 | U | 0.008 |
| Vanadium | ICAP | U | 0.037 | 0.037 | 0.037 | 0.067 | 0.037 | U | 0.037 | U | 0.008 | U | 0.008 |
| Zinc | ICAP | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.079 | U | 0.20 | U | 0.22 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.1 (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06265 | | 06266 | | 06267 | | 06268 | | 06269 | | 06270 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Location 3A | | Location 3A | | LOC B CHURCH & DEY ST | | C -LIBERTY ST. & CHURCH ST. | | D-GREENWICH & ALBANY ST. | | P-ALBANY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4370 | | 4540 | | 4140 | | 4760 | | 4740 | | 4010 | |
| Date Collected | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | | 01/22/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.14 | U | 0.13 | U | 0.15 | U | 0.13 | U | 0.13 | U | 0.15 |
| Antimony | AA-Fur | U | 0.017 | U | 0.017 | U | 0.018 | U | 0.016 | U | 0.016 | U | 0.019 |
| Arsenic | AA-Fur | 0.009 | 0.007 | 0.014 | 0.007 | U | 0.008 | U | 0.007 | U | 0.007 | U | 0.008 |
| Barium | ICAP | U | 0.072 | U | 0.069 | U | 0.076 | U | 0.066 | U | 0.070 | U | 0.079 |
| Beryllium | ICAP | U | 0.011 | U | 0.011 | U | 0.012 | U | 0.011 | U | 0.011 | U | 0.012 |
| Cadmium | ICAP | U | 0.004 | U | 0.004 | U | 0.004 | U | 0.003 | U | 0.003 | U | 0.004 |
| Calcium | ICAP | 5.0 | 0.80 | U | 0.77 | 5.6 | 0.85 | 4.4 | 0.74 | U | 0.74 | 5.6 | 0.87 |
| Chromium | ICAP | U | 0.010 | U | 0.010 | U | 0.010 | U | 0.009 | U | 0.009 | U | 0.010 |
| Cobalt | ICAP | U | 0.008 | U | 0.007 | U | 0.008 | U | 0.007 | U | 0.007 | U | 0.008 |
| Copper | ICAP | U | 0.10 | U | 0.10 | U | 0.11 | U | 0.093 | U | 0.093 | U | 0.11 |
| Iron | ICAP | 9.2 | 0.21 | 8.8 | 0.20 | 4.7 | 0.22 | 4.3 | 0.19 | 1.9 | 0.19 | 2.2 | 0.22 |
| Lead | AA-Fur | 0.015 | 0.002 | 0.036 | 0.002 | 0.047 | 0.002 | 0.021 | 0.002 | 0.090 | 0.002 | 0.013 | 0.002 |
| Magnesium | ICAP | U | 0.76 | U | 0.73 | U | 0.8 | U | 0.70 | U | 0.70 | 2.1 | 0.83 |
| Manganese | ICAP | 0.10 | 0.020 | 0.091 | 0.020 | 0.078 | 0.020 | 0.058 | 0.016 | 0.025 | 0.016 | 0.046 | 0.019 |
| Nickel | ICAP | U | 0.010 | U | 0.01 | U | 0.01 | U | 0.012 | U | 0.012 | U | 0.014 |
| Potassium | ICAP | U | 0.84 | U | 0.81 | U | 0.89 | U | 0.77 | U | 0.78 | U | 0.92 |
| Selenium | AA-Fur | U | 0.017 | U | 0.017 | U | 0.018 | U | 0.016 | U | 0.016 | U | 0.019 |
| Silver | ICAP | U | 0.006 | U | 0.006 | U | 0.006 | U | 0.005 | U | 0.005 | U | 0.006 |
| Sodium | ICAP | U | 0.84 | U | 0.81 | U | 0.89 | U | 0.77 | U | 0.78 | U | 0.92 |
| Thallium | AA-Fur | U | 0.008 | U | 0.008 | U | 0.008 | U | 0.007 | U | 0.007 | U | 0.009 |
| Vanadium | ICAP | U | 0.010 | U | 0.008 | U | 0.009 | U | 0.008 | U | 0.008 | U | 0.009 |
| Zinc | ICAP | U | 0.23 | U | 0.22 | U | 0.25 | U | 0.21 | U | 0.017 | U | 0.25 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

Table 1.x (cont.) Results of the Analysis for Metals in Air
WA # 0-236 New York (WTC) ER site

| Client ID | | 06271 | | 06272 | |
|---|---|---|---|---|---|
| Location | | S-RECTOR PLACE & SOUTH END AVE | | E-LIBERTY ST. & SOUTH END AVE | |
| Air Volume (L) | | 4800 | | 4170 | |
| Date Collected | | 01/22/02 | | 01/22/02 | |
| Parameter | Analysis Method | Conc µg/m³ | MDL µg/m³ | Conc µg/m³ | MDL µg/m³ |
| Aluminum | ICAP | U | 0.13 | U | 0.14 |
| Antimony | AA-Fur | U | 0.016 | U | 0.018 |
| Arsenic | AA-Fur | U | 0.007 | U | 0.008 |
| Barium | ICAP | U | 0.066 | U | 0.076 |
| Beryllium | ICAP | U | 0.010 | U | 0.012 |
| Cadmium | ICAP | U | 0.003 | U | 0.004 |
| Calcium | ICAP | U | 0.73 | U | 0.84 |
| Chromium | ICAP | U | 0.009 | U | 0.010 |
| Cobalt | ICAP | U | 0.007 | U | 0.008 |
| Copper | ICAP | U | 0.092 | U | 0.11 |
| Iron | ICAP | U | 0.19 | U | 0.22 |
| Lead | AA-Fur | U | 0.002 | U | 0.002 |
| Magnesium | ICAP | U | 0.69 | U | 0.79 |
| Manganese | ICAP | U | 0.016 | U | 0.019 |
| Nickel | ICAP | U | 0.012 | U | 0.014 |
| Potassium | ICAP | U | 0.77 | U | 0.88 |
| Selenium | AA-Fur | U | 0.016 | U | 0.018 |
| Silver | ICAP | U | 0.005 | U | 0.006 |
| Sodium | ICAP | U | 0.77 | U | 0.88 |
| Thallium | AA-Fur | U | 0.007 | U | 0.008 |
| Vanadium | ICAP | U | 0.008 | U | 0.009 |
| Zinc | ICAP | U | 0.017 | U | 0.24 |

MDL denotes Method Detection Limit
U denotes less than the MDL (not detected)
Average Media Blank concentration subtracted from all sample results

**NYC Emergency Response**
**Silica- Air Sampling Results at Fixed Locations**
**Sampling Date and Time: 04/4/02**

| Sampling Date | Sample No. | Sampling Location | Sample Volume Liters | Matrix | Quartz mg/m$^3$ | Cristobalite mg/m$^3$ | Tridymite mg/m$^3$ |
|---|---|---|---|---|---|---|---|
| 4/4/02 | TTWS-0202 | A | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0201 | 3A | 980 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0200 | B | 1000 | Air | 0.01 J | <0.02 | <0.02 |
| 4/4/02 | TTWS-0199 | B | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0198 | C | 990 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0197 | D | 990 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0194 | E | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0195 | P | 1000 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0196 | S | 980 | Air | <0.01 | <0.02 | <0.02 |
| 4/4/02 | TTWS-0193 | R | 1000 | Air | <0.01 | <0.02 | <0.02 |

c# 04/4/02-TTSilica

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
3B Church & Vesey
3A Between WTC4 & WTC 5

NS: Not sampled

ERT 4/12/02

**NIOSH 7500: Silica crystalline by XRD**

FL-04-4-02silica.xls

The following table is a summary of the air sampling data inside the four buildings to date. Sampling done on 11-29-01, 12-17-01, and 1-22-02 was done by the Nassau County Health Department. All other samples were taken by US EPA. Samples after 1-21-02 reflect conditions in Tutor Time after the air quality improvement measures were operating. ND denotes "non-detect" and indicates that the compound was not detected at the analytical detection limit in that sample. NS denotes "No Sample" and indicates that a sample was not taken in that location. Two results in one cell indicate that duplicate samples were taken in that location for quality control purposes. Additionally, not every compound was analyzed for during every sampling date. Therefore, some compounds are reported for multiple dates, while others for only one date.

| | tetrachloroethylene (PCE) | | | | | bromoform | | napthalene | 1,2-dichloroethane | | dichlorobenzene | | ethyl benzene | xylene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11-29-01 | 12-17-01 | 01-22-02 | 01-24-02 | 02-14-02 | 01-24-02 | 02-14-02 | 02-14-02 | 01-24-02 | 02-14-02 | 01-24-02 | 02-14-02 | 02-14-02 | 02-14-02 |
| Infant Care Room | NS | 91 | 21 | 20.7 / 13.3 | 21.4 / 16.5 | ND | ND | ND | 33.1 | ND / 33.7 | ND | ND | ND | ND |
| Infant Care Room / Newborn | NS | 90 | 28 | 9.9 | 18.0 B | ND | ND | ND | 39.1 | ND | ND | ND | ND | ND |
| Toddler Classroom | NS | 130 | 16 / 16 | 7.1 | 11.5 | ND | ND | ND | 52.4 | 33.6 | ND | ND | ND | 33.6 |
| Playground | 60 | 150 | 18 | 7.0 / 7.5 | 16.7 / 15.7 B | ND | ND | ND | 32.46 / ND | 33.8 / 34.2 | ND | 67.5 / ND | 16.9 / ND | 110 / 85.6 |
| Learning Center | 81 | 230* | 27 | 10.8 | 18.9 | ND | ND | ND | ND | 41.3 | ND | 99.1 | ND | ND |
| Pookies Café | 78 | 260 | 28 | 11.1 / 9.6 | 17.7 B / 17.5 | ND | ND | 143.0 / 106.0 | ND | 42.0 / 40.7 | ND | 143.0 / ND | ND | ND |
| Twaddler Classroom | NS | NS | 32 / 32 | 13.0 | 21.2 | ND | ND | ND | ND | 34.8 | ND | 130.4 | ND | ND |
| Learning Center (Northwest Room) | 49 | 66 / 63 | 14 | 8.6 | 9.9 B | ND | ND | 133.8 | ND | ND | ND | 164.7 | ND | ND |
| Learning Village | NS | 90 | 21 | NS | 13.8 | NS | ND | 71.2 | NS | 23.7 | NS | 134.4 | ND | ND |
| Learning Center (Southwest Room) | NS | 64 / 67 | 21 / 21 | 13.9 | 14.3 B | 246.93 | ND | 176.7 | ND | ND | ND | 160.6 | ND | ND |
| Reception Area | NS | NS | NS | NS | 11.3 B | NS | ND | 101.1 | NS | 31.1 | NS | 124.4 | ND | ND |
| Laundry / Utility Room | NS | 46* | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| South Side of the Bldg. (Outdoor) | NS | NS | NS | 2.0 B | 2.9 B | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| North Side of the Bldg. (Outdoor) | 5 | <5 | <5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Shooters Billiards Parlor | NS | NS | NS | 169 | NS | ND | NS | NS | ND | NS | ND | NS | NS | NS |
| Shooters Billiards Parlor | NS | NS | <5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Sanders & Sanders | NS | NS | NS | NS | 19.8 B | NS | ND | 126.8 | NS | 48.8 | NS | 107.3 | ND | ND |
| Ian McGregors - Kitchen | NS | 18/18 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Ian McGregors - Under Bar Floor Drain | NS | 18 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Results suspicious as the badge was not properly sealed.

B - Possible breakthrough or migration

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/29/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06937 | | 06938 | | 06939 | | 06940 | | 06941 | |
| Sampling Location | Location R | | Location R | | Location E | | Location P | | Location S | |
| Volume (L) | 892.7 | | 842.4 | | 849.25 | | 760.38 | | 872.95 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.6 | U | 1.7 | U | 1.7 | U | 1.9 | U | 1.6 |
| 2-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.7 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.4 | U | 1.5 | U | 1.5 | U | 1.7 | U | 1.5 |
| Biphenyl | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.5 | U | 1.3 |
| Acenaphthylene | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Acenaphthene | U | 1.3 | U | 1.4 | U | 1.4 | U | 1.6 | U | 1.4 |
| Dibenzofuran | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Fluorene | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.5 | U | 1.3 |
| Phenanthrene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Anthracene | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.4 | U | 1.2 |
| Carbazole | U | 1.2 | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.3 |
| Fluoranthene | U | 1.0 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.0 |
| Pyrene | U | 1.0 | U | 1.1 | U | 1.1 | U | 1.2 | U | 1.0 |
| Benzo[a]anthracene | U | 0.90 | U | 0.95 | U | 0.95 | U | 1.1 | U | 0.92 |
| Chrysene | U | 0.90 | U | 0.95 | U | 0.95 | U | 1.1 | U | 0.92 |
| Benzo[b]fluoranthene | U | 0.82 | U | 0.86 | U | 0.86 | U | 0.96 | U | 0.83 |
| Benzo[k]fluoranthene | U | 0.82 | U | 0.86 | U | 0.86 | U | 0.96 | U | 0.83 |
| Benzo[e]pyrene | U | 0.82 | U | 0.86 | U | 0.86 | U | 0.96 | U | 0.83 |
| Benzo[a]pyrene | U | 0.82 | U | 0.86 | U | 0.86 | U | 0.96 | U | 0.83 |
| Indeno(1,2,3-c,d)pyrene | U | 0.74 | U | 0.79 | U | 0.78 | U | 0.87 | U | 0.76 |
| Dibenzo[a,h]anthracene | U | 0.74 | U | 0.78 | U | 0.78 | U | 0.87 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 0.74 | U | 0.79 | U | 0.78 | U | 0.87 | U | 0.76 |

COC: 03/29/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-29-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/29/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06942 | | 06943 | | 06944 | | 06945 | | 06946 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| Volume (L) | 865.05 | | 906.53 | | 784.08 | | 894.68 | | 853.2 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.7 | U | 1.6 | U | 1.8 | U | 1.6 | U | 1.7 |
| 2-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 |
| 1-Methylnaphthalene | U | 1.5 | U | 1.4 | U | 1.6 | U | 1.4 | U | 1.5 |
| Biphenyl | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 |
| Acenaphthylene | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 |
| Acenaphthene | U | 1.4 | U | 1.3 | U | 1.5 | U | 1.3 | U | 1.4 |
| Dibenzofuran | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.3 |
| Fluorene | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.3 |
| Phenanthrene | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.2 | U | 1.2 |
| Anthracene | U | 1.2 | U | 1.1 | U | 1.3 | U | 1.2 | U | 1.2 |
| Carbazole | U | 1.3 | U | 1.2 | U | 1.4 | U | 1.2 | U | 1.3 |
| Fluoranthene | U | 1.1 | U | 1.0 | U | 1.2 | U | 1.0 | U | 1.1 |
| Pyrene | U | 1.1 | U | 1.0 | U | 1.2 | U | 1.0 | U | 1.1 |
| Benzo[a]anthracene | U | 0.93 | U | 0.89 | U | 1.0 | U | 0.90 | U | 0.94 |
| Chrysene | U | 0.93 | U | 0.89 | U | 1.0 | U | 0.90 | U | 0.94 |
| Benzo[b]fluoranthene | U | 0.84 | U | 0.80 | U | 0.93 | U | 0.81 | U | 0.85 |
| Benzo[k]fluoranthene | U | 0.84 | U | 0.80 | U | 0.93 | U | 0.81 | U | 0.85 |
| Benzo[e]pyrene | U | 0.84 | U | 0.80 | U | 0.93 | U | 0.81 | U | 0.85 |
| Benzo[a]pyrene | U | 0.84 | U | 0.80 | U | 0.93 | U | 0.81 | U | 0.85 |
| Indeno(1,2,3-c,d)pyrene | U | 0.77 | U | 0.73 | U | 0.85 | U | 0.74 | U | 0.78 |
| Dibenzo[a,h]anthracene | U | 0.76 | U | 0.73 | U | 0.84 | U | 0.74 | U | 0.77 |
| Benzo[g,h,i]perylene | U | 0.77 | U | 0.73 | U | 0.85 | U | 0.74 | U | 0.78 |

COC: 03/29/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-29-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/29/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06947 | | 06948 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/29/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-29-02PAH.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/27/02**

| Sample No. | WG7195-C1 | | | 06832 | | | 06831 | | | 06830 | | | 06829 | | | 06828 | | | 06827 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | | Location A | | | Location 3A | | | B-Church & Dev St | | | C-Liberty St. & Church St. | | | D Greenwich & Albany St. | | | Location S | | |
| Volume (Liters) | 0 | | | 6600 | | | 5535 | | | 7200 | | | 7605 | | | 5190 | | | 6390 | | |
| Analyte | Result ng | EMPC ng | MDL ng | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ |
| 2378-TCDD | U | | 0.020 | U | | 0.0030 | U | | 0.0036 | U | | 0.0026 | U | | 0.0026 | U | | 0.0039 | U | | 0.0031 |
| 12378-PeCDD | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 123478-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 123678-HxCDD | U | | 0.10 | U | 0.0026 | 0.015 | 0.0020 J | | 0.018 | U | 0.0019 | 0.014 | U | | 0.013 | U | 0.0026 | 0.019 | U | | 0.016 |
| 123789-HxCDD | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 1234678-HpCDD | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | 0.0004 | 0.013 | U | | 0.019 | U | | 0.016 |
| OCDD | 0.0446 J | | 0.20 | U | | 0.030 | U | | 0.036 | U | | 0.028 | U | | 0.026 | U | | 0.039 | U | | 0.031 |
| 2378-TCDF | U | | 0.020 | U | | 0.0030 | U | | 0.0036 | U | | 0.0026 | U | | 0.0026 | U | | 0.0039 | U | | 0.0031 |
| 12378-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 23478-PeCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 12378-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 123678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 234678-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 123789-HxCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 1234678-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| 1234789-HpCDF | U | | 0.10 | U | | 0.015 | U | | 0.018 | U | | 0.014 | U | | 0.013 | U | | 0.019 | U | | 0.016 |
| OCDF | U | | 0.20 | U | | 0.030 | U | | 0.036 | U | | 0.028 | U | | 0.026 | U | | 0.039 | U | | 0.031 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | 0.0026 | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | U | | | U | | | 0.0037 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0002 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0419 | | | 0.0029 | | | 0.0025 | | | 0.0019 | | | 0.0023 | | | 0.0028 | | | 0.0024 | | |

**OOO# 03/27/02 dioxR**
**B= Not detected due to blank contamination**
**EMPC: Estimated Maximum Possible Concentration**
**TEQ: Toxicity Equivalent**
**NA Not Analyzed. Sample not received by the laboratory**
**The TEQ (ND=1/2) is calculated using 1/2 of the estimated detection limit for U (non detect) values.**

**ERTC 4/09/02**

03-27-02dioaltrev.xls

**NYC Emergency Response**
**Air Samples - dioxin and furan results**
**Sampling Date 3/27/02**

| Sample No. | 06826 | | | 06825 | | | 06824 | | | 06823 | | | 06833 | | | 06834 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Location P | | | Location E | | | R- TAGA | | | R- TAGA | | | Field Blank | | | Lot Blank | | |
| Volume (Liters) | 7485 | | | 5880 | | | 5775 | | | 5985 | | | 0 | | | 0 | | |
| Analyte | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng/m³ | EMPC ng/m³ | MDL ng/m³ | Result ng | EMPC ng | MDL ng | Result ng | EMPC ng | MDL ng |
| 2378-TCDD | U | | 0.0027 | U | | 0.0034 | U | | 0.0035 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDD | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDD | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123678-HxCDD | U | 0.0021 | 0.013 | U | 0.0024 | 0.017 | U | | 0.017 | U | 0.0035 | 0.014 | U | 0.0168 | 0.10 | U | 0.0146 | 0.10 |
| 123789-HxCDD | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDD | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | 0.0098 | 0.10 | 0.0068 J | | 0.10 |
| OCDD | U | | 0.027 | U | | 0.034 | U | | 0.035 | U | | 0.028 | U | | 0.20 | 0.0439 J | | 0.20 |
| 2378-TCDF | U | | 0.0027 | U | | 0.0034 | U | | 0.0035 | U | | 0.0028 | U | | 0.020 | U | | 0.020 |
| 12378-PeCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | 0.0042 J | | 0.10 | U | | 0.10 |
| 23478-PeCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123478-HxCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | 0.0018 | 0.10 | U | | 0.10 |
| 123678-HxCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | 0.0038 | 0.10 | U | | 0.10 |
| 234678-HxCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 123789-HxCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234678-HpCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| 1234789-HpCDF | U | | 0.013 | U | | 0.017 | U | | 0.017 | U | | 0.014 | U | | 0.10 | U | | 0.10 |
| OCDF | U | | 0.027 | U | | 0.034 | U | | 0.035 | U | | 0.028 | U | | 0.20 | U | | 0.20 |
| Total TCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HxCDDs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDDs | U | | | U | | | U | | | U | | | 0.0067 | | | 0.0068 | | |
| Total TCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total PeCDFs | U | | | U | | | U | | | U | | | 0.0042 | | | U | | |
| Total HxCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| Total HpCDFs | U | | | U | | | U | | | U | | | U | | | U | | |
| **Total Adjusted Conc** | | | | | | | | | | | | | | | | | | |
| TEQ (ND=0) | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0000 | | | 0.0001 | | |
| TEQ (ND=1/2) | 0.0020 | | | 0.0030 | | | 0.0024 | | | 0.0026 | | | 0.0401 | | | 0.0400 | | |

COC# 03/27/02 dioxin

03-27-02dioairrev.xls

Table 1.1 Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/27/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06925 | | 06926 | | 06927 | | 06928 | | 06929 | |
| Sampling Location | Location R | | Location R | | Location E | | Location P | | Location S | |
| Volume (L) | 791.98 | | 914.43 | | 726 | | 810 | | 1001.25 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 1.8 | U | 1.6 | U | 2.0 | U | 1.8 | U | 1.4 |
| 2-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.8 | U | 1.6 | U | 1.3 |
| 1-Methylnaphthalene | U | 1.6 | U | 1.4 | U | 1.8 | U | 1.6 | U | 1.3 |
| Biphenyl | U | 1.5 | U | 1.3 | U | 1.6 | U | 1.5 | U | 1.2 |
| 2,6-Dimethylnaphthalene | U | 1.5 | U | 1.3 | U | 1.6 | U | 1.5 | U | 1.2 |
| Acenaphthylene | U | 1.5 | U | 1.3 | U | 1.7 | U | 1.5 | U | 1.2 |
| Acenaphthene | U | 1.5 | U | 1.3 | U | 1.6 | U | 1.5 | U | 1.2 |
| Dibenzofuran | U | 1.4 | U | 1.2 | U | 1.5 | U | 1.3 | U | 1.1 |
| Fluorene | U | 1.4 | U | 1.2 | U | 1.5 | U | 1.4 | U | 1.1 |
| Phenanthrene | U | 1.3 | U | 1.1 | U | 1.4 | U | 1.3 | U | 1.0 |
| Anthracene | U | 1.3 | U | 1.1 | U | 1.4 | U | 1.3 | U | 1.0 |
| Carbazole | U | 1.4 | U | 1.2 | U | 1.5 | U | 1.4 | U | 1.1 |
| Fluoranthene | U | 1.1 | U | 1.0 | U | 1.3 | U | 1.1 | U | 0.91 |
| Pyrene | U | 1.1 | U | 1.0 | U | 1.3 | U | 1.1 | U | 0.91 |
| Benzo[a]anthracene | U | 1.0 | U | 0.88 | U | 1.1 | U | 0.99 | U | 0.80 |
| Chrysene | U | 1.0 | U | 0.88 | U | 1.1 | U | 0.99 | U | 0.80 |
| Benzo[b]fluoranthene | U | 0.92 | U | 0.80 | U | 1.0 | U | 0.90 | U | 0.73 |
| Benzo[k]fluoranthene | U | 0.92 | U | 0.80 | U | 1.0 | U | 0.90 | U | 0.73 |
| Benzo[e]pyrene | U | 0.92 | U | 0.80 | U | 1.0 | U | 0.90 | U | 0.73 |
| Benzo[a]pyrene | U | 0.92 | U | 0.80 | U | 1.0 | U | 0.90 | U | 0.73 |
| Indeno(1,2,3-c,d)pyrene | U | 0.84 | U | 0.73 | U | 0.92 | U | 0.82 | U | 0.66 |
| Dibenzo[a,h]anthracene | U | 0.83 | U | 0.72 | U | 0.91 | U | 0.81 | U | 0.66 |
| Benzo[g,h,i]perylene | U | 0.84 | U | 0.73 | U | 0.92 | U | 0.82 | U | 0.66 |

COC: 03/27/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-27-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/27/02 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | 06930 | | 06931 | | 06932 | | 06933 | | 06934 | |
| Sampling Location | Location D | | Location C | | Location B | | Location 3A | | Location A | |
| Volume (L) | 638.75 | | 600 | | 572 | | 521.5 | | 864 | |
| Compound Name | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv | Conc ppbv | MDL ppbv |
| Naphthalene | U | 2.2 | U | 2.4 | U | 2.5 | U | 2.7 | U | 1.7 |
| 2-Methylnaphthalene | U | 2.0 | U | 2.2 | U | 2.3 | U | 2.5 | U | 1.5 |
| 1-Methylnaphthalene | U | 2.0 | U | 2.2 | U | 2.3 | U | 2.5 | U | 1.5 |
| Biphenyl | U | 1.9 | U | 2.0 | U | 2.1 | U | 2.3 | U | 1.4 |
| 2,6-Dimethylnaphthalene | U | 1.8 | U | 2.0 | U | 2.1 | U | 2.3 | U | 1.4 |
| Acenaphthylene | U | 1.9 | U | 2.0 | U | 2.1 | U | 2.3 | U | 1.4 |
| Acenaphthene | U | 1.9 | U | 2.0 | U | 2.1 | U | 2.3 | U | 1.4 |
| Dibenzofuran | U | 1.7 | U | 1.8 | U | 1.9 | U | 2.1 | U | 1.3 |
| Fluorene | U | 1.7 | U | 1.8 | U | 1.9 | U | 2.1 | U | 1.3 |
| Phenanthrene | U | 1.6 | U | 1.7 | U | 1.8 | U | 2.0 | U | 1.2 |
| Anthracene | U | 1.6 | U | 1.7 | U | 1.8 | U | 2.0 | U | 1.2 |
| Carbazole | U | 1.7 | U | 1.8 | U | 1.9 | U | 2.1 | U | 1.3 |
| Fluoranthene | U | 1.4 | U | 1.5 | U | 1.6 | U | 1.7 | U | 1.1 |
| Pyrene | U | 1.4 | U | 1.5 | U | 1.6 | U | 1.7 | U | 1.1 |
| Benzo[a]anthracene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.5 | U | 0.93 |
| Chrysene | U | 1.3 | U | 1.3 | U | 1.4 | U | 1.5 | U | 0.93 |
| Benzo[b]fluoranthene | U | 1.1 | U | 1.2 | U | 1.3 | U | 1.4 | U | 0.84 |
| Benzo[k]fluoranthene | U | 1.1 | U | 1.2 | U | 1.3 | U | 1.4 | U | 0.84 |
| Benzo[e]pyrene | U | 1.1 | U | 1.2 | U | 1.3 | U | 1.4 | U | 0.84 |
| Benzo[a]pyrene | U | 1.1 | U | 1.2 | U | 1.3 | U | 1.4 | U | 0.84 |
| Indeno(1,2,3-c,d)pyrene | U | 1.0 | U | 1.1 | U | 1.2 | U | 1.3 | U | 0.77 |
| Dibenzo[a,h]anthracene | U | 1.0 | U | 1.1 | U | 1.2 | U | 1.3 | U | 0.76 |
| Benzo[g,h,i]perylene | U | 1.0 | U | 1.1 | U | 1.2 | U | 1.3 | U | 0.77 |

COC: 03/27/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-27-02PAH.xls

Table 1.1(Cont.) Results of the Analysis for PAH in Air
WA# 0-236: WTC ER Site

| Date Sampled 03/27/02 | | | | |
|---|---|---|---|---|
| Sample No. | 06935 | | 06936 | |
| Sampling Location | Field Blank | | Lot Blank | |
| Volume (L) | 0 | | 0 | |
| Compound Name | Conc ug | MDL ug | Conc ug | MDL ug |
| Naphthalene | U | 7.5 | U | 7.5 |
| 2-Methylnaphthalene | U | 7.5 | U | 7.5 |
| 1-Methylnaphthalene | U | 7.5 | U | 7.5 |
| Biphenyl | U | 7.5 | U | 7.5 |
| 2,6-Dimethylnaphthalene | U | 7.5 | U | 7.5 |
| Acenaphthylene | U | 7.5 | U | 7.5 |
| Acenaphthene | U | 7.5 | U | 7.5 |
| Dibenzofuran | U | 7.5 | U | 7.5 |
| Fluorene | U | 7.5 | U | 7.5 |
| Phenanthrene | U | 7.5 | U | 7.5 |
| Anthracene | U | 7.5 | U | 7.5 |
| Carbazole | U | 7.5 | U | 7.5 |
| Fluoranthene | U | 7.5 | U | 7.5 |
| Pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]anthracene | U | 7.5 | U | 7.5 |
| Chrysene | U | 7.5 | U | 7.5 |
| Benzo[b]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[k]fluoranthene | U | 7.5 | U | 7.5 |
| Benzo[e]pyrene | U | 7.5 | U | 7.5 |
| Benzo[a]pyrene | U | 7.5 | U | 7.5 |
| Indeno(1,2,3-c,d)pyrene | U | 7.5 | U | 7.5 |
| Dibenzo[a,h]anthracene | U | 7.5 | U | 7.5 |
| Benzo[g,h,i]perylene | U | 7.5 | U | 7.5 |

COC: 03/27/02-PAHs
U: Denotes not detected
J: Denotes value is estimated
UJ: Denotes MDL is estimated

03-27-02PAH.xls

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
April 16, 2002

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 1004 | 08:22 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 77.0 | 433.8 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 1002 | 08:21 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 45.5 | 407.9 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | ---- | ----- | 10 | 00:00:30 | 1 | 0.0 | 0.1 | ---- | ---- |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 1002 | 08:21 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 37.5 | 319.1 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 1002 | 08:21 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 38.4 | 3307.7 |

Note: Due to equipment failure the logged data for perimeter location 5 was determined to be invalid and therefore not reported.

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 16, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0641 | 0645 | 0639 |
| Stop Time | 1444 | 1448 | 1443 |
| Run Time (minutes) | 483 | 483 | 484 |
| Maximum Concentration ($ug/m^3$) | 80.52 | 94.34 | 109.75 |
| Average Concentration ($ug/m^3$) | 49.78 | 50.79 | 52.59 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 17, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0627 | 0631 | 0625 |
| Stop Time | 1423 | 1426 | 1422 |
| Run Time (minutes) | 476 | 475 | 477 |
| Maximum Concentration ($ug/m^3$) | 1,476.48 | 184.54 | 97.15 |
| Average Concentration ($ug/m^3$) | 76.27 | 77.21 | 38.34 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/16/02**

| File Name | NYC1554 | NYC1555 | NYC1556 | NYC1557 | NYC1559 | NYC1558 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07727 | A07728 | A07729 | A07730 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ | ppb$_v$ |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | 180 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| 0-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Thursday, April 18, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:15 p.m. on April 18**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 35 samples taken in and around ground zero on April 6 and April 7. EPA also sampled for asbestos at two additional lower Manhattan locations on April 4. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 8,163, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Dioxin** - A total of 11 samples were collected from March 4 through March 18 from several locations in Lower Manhattan. All samples collected were below the EPA Removal Action guidelines (based on a 30-year exposure).

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 17 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 17 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Particulates** - There were no significant readings from samples collected on April 17.

**Elsewhere in New York City:**

**Air Sampling for Asbestos** - Samples were collected on on April 4 at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 199 (3290 48th St., Queens), P.S. 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Thursday, April 18, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

NYC / ER (Apr 6, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 7, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location L) was not collected due to an equipment malfunction.

Landfill Ambient Air Sampling Locations

Fresh Kills (Apr 7)

Results pending.

Fresh Kills (Apr 9)

Results pending.

Fresh Kills (Apr 17) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Mar 4 - Mar 18) - Dioxin (EPA-ORD)

Eleven (11) 72-hour samples were collected during this period at Park Row (4 samples), Chambers St./West St. (3 samples), and Albany St. (4 samples) at roof top locations.
None of the samples collected were above the EPA Removal Action guideline (based on a 30-year exposure).
**Note**: The analytical results for all of these samples indicate that dioxin is not present in these air samples at levels sufficiently above those in the control samples to be considered a valid result.
Data is not attached.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 4) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:

- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 7) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 17) - Volatile Organics (Mobile Laboratory)

Numerous volatile organic compounds were detected at the South Tower in a sample collected from the ground surface of the ongoing excavation activities. Two volatile organic compounds were identified in samples collected at the North Tower and Austin Tobin Plaza.

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/10/02**
**Sampling Date and Time:** **4/7/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm$^2$ | S~f/cc** |
| 01/00/00 | TTW-02350 | W | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02351 | Q | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02352 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02353 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02354 | U | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/07/02 | TTW-02355 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02356 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02357 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02358 | D-Dup | 1238.25 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 04/07/02 | TTW-02359 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02360 | B | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02361 | A | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | TTW-02362 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02363 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | TTW-02364 | J-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02365 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/07/02 | TTW-02366 | M1 | 1324 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |

*No Sample was submitted for Location L due to flow fault.*

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/10/02**
**Sampling Date and Time:** **4/6/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/06/02 | TTW-02314 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/06/02 | TTW-02315 | W | 1440 | Air | 11.46 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02316 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02317 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/06/02 | TTW-02318 | U | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02319 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/06/02 | TTW-02320 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02321 | K-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/06/02 | TTW-02322 | D | 1440 | Air | 8.92 | 0.002 | 0 | ***1 | 16 | 0.0043 |
| 04/06/02 | TTW-02323 | C | 1440 | Air | 10.19 | 0.003 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02324 | B | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02325 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02326 | A-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02327 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02328 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02329 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02330 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/06/02 | TTW-02331 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/11/02**
**Sampling Date and Time: 4/4/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/04/02 | 7093-18-0189 | Park Row | 1248 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 04/04/02 | 7093-19-0189 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | 7093-15-0187 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | 7094-09-0175 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | 7096-12-0183 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | 7095-98-0183 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/04/02 | 7097-18-0180 | P.S. 44 (S I) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 17, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 904 | 07:32 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 89.6 | 1412.5 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 890 | 07:25 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 52.2 | 1232.2 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 904 | 07:23 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 42.2 | 1173.3 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 920 | 07:32 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 75.8 | 4793.7 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 896 | 07:28 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 34.6 | 1342.6 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/17/02**

| File Name | NYC1565 | NYC1566 | NYC1567 | NYC1568 | NYC1570 | NYC1569 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07731 | A07732 | A07733 | A07734 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | **22** |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | **26** | **28** | **42** |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | **30** | RL | **110** |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | **25** |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | **57** |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | **38** |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | **50** |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

# U.S. Environmental Protection Agency (EPA)
# Daily Summary
# Friday, April 19, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:45 p.m. on April 19**

Lower Manhattan:

**Air Sampling for Asbestos** - EPA analyzed 106 samples taken in and around ground zero from April 12 through April 15. EPA also sampled for asbestos at two additional lower Manhattan locations on April 7, 10 and 11. All samples showed results less than 70 structures per square millimeter, which is the Asbestos Hazard Emergency Response Act (AHERA) standard for allowing children to re-enter school buildings after asbestos removal activities.

This brings the total number of air samples collected and analyzed for asbestos in Lower Manhattan to 8,275, with 21 samples above the standard (11 of these were collected prior to September 30; the other 10 were collected on October 9, November 27, December 27, January 14, February 5, February 11, March 9, March 29, March 30 and April 2).

**Air Sampling for Particulates** - EPA collected samples on April 18 at Location "L" (northeast side of Stuyvesant High School), Location "N" (south side of Pier 25), and Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for PCB's** - A total of 20 samples were collected on March 21 and March 27 at several locations in Lower Manhattan. PCB's were not detected.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted on April 18 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken on April 18 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Asbestos** - A total of 38 samples were collected on April 9 and April 12. All samples were below the school re-entry standard.

**Air Sampling for Particulates** - There were no significant readings from samples collected on April 18.

Elsewhere in New York City:

**Air Sampling for Asbestos** - Samples were collected on April 7, 10 and 11, at Intermediate School 143 (511 W. 182nd St., Manhattan), Public School 199 (3290 48th St., Queens), P.S. 154 (333 East 135th St., Bronx), P.S. 274 (800 Bushwick Ave, Brooklyn) and P.S. 44 (80 Maple Parkway, Staten Island). None showed exceedances of the AHERA re-entry standard.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Friday, April 19, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

NYC / ER (Apr 12, 1200 - 2400 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 13, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 13, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location U) was not collected due to an equipment malfunction.

NYC / ER (Apr 14, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

NYC / ER (Apr 14, 1200 - 2400 hrs)

All 17 samples analyzed were below the TEM AHERA standard.
1 sample (Location F) was not analyzed for TEM.

NYC / ER (Apr 15, 0001 - 1200 hrs)

All 18 samples analyzed were below the TEM AHERA standard.

Landfill Ambient Air Sampling Locations

Fresh Kills (Apr 7)

Results pending.

Fresh Kills (Apr 9, 0825 - 2114 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 12, 0650 - 2126 hrs)

All 19 samples analyzed were below the TEM AHERA standard.

Fresh Kills (Apr 13)

Results pending.

Fresh Kills (Apr 14)

Sampling was not conducted since there were no operations at the landfill on this day.

Fresh Kills (Apr 18) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Ambient Air Sampling Locations

NYC / ER (Mar 21) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 27) - PCBs

All 10 samples analyzed did not detect any PCBs.

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 7) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:

- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St. Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 7 samples were collected from these monitoring sites. All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 10 - 11) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Monitoring sites include:
- Park Row (Site 1)
- Chambers St./West St. (Site 2)
- Public School 154: 333 East 135th St, Bronx (Site 5)
- Intermediate School 143: 511 West 182nd St., Manhattan (Site 6)
- Public School 274: 800 Bushwick Ave., Brooklyn (Site 7)
- Public School 44: 80 Maple Parkway, Staten Island (Site 8)
- Public School 199: 3290 - 48th Ave., Queens (Site 9)

During this period a total of 14 samples were collected from these monitoring sites.
All of the samples were below the TEM AHERA standard.

NYC / ER (Apr 18) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA. Instruments operated approximately 8 hours.
Station L had an average of 28.18 ug/$m^3$ with a maximum reading of 58.06 ug/$m^3$.
Station N had an average of 26.85 ug/$m^3$ with a maximum reading of 73.84 ug/$m^3$.
Station R had an average of 29.70 ug/$m^3$ with a maximum reading of 58.03 ug/$m^3$.

NYC / ER (Apr 18) - Volatile Organics (Mobile Laboratory)

Aside from two volatile organic compounds detected at the North Tower, no other volatiles were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/15/02**
**Sampling Date and Time:** **4/12/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/12/02 | TTW-02530 | W | 1440 | Air | 13.38 | 0.004 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02531 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/12/02 | TTW-02532 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02533 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02534 | U | 405.3 | Air | <7.0 | <0.007 | 0 | 0 | <8.00 | <0.0076 |
| 04/12/02 | TTW-02535 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02536 | K | 1440 | Air | <7.0 | <0.002 | *****1 | 0 | 16 | 0.0043 |
| 04/12/02 | TTW-02537 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/12/02 | TTW-02538 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02539 | B | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02540 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02541 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/12/02 | TTW-02542 | F-Dup. | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/12/02 | TTW-02543 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/12/02 | TTW-02544 | N | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/12/02 | TTW-02545 | M1 | 1194.9 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0043 |
| 04/12/02 | TTW-02546 | M1-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/12/02 | TTW-02547 | L | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End
T: Pier 6 Heliport
U: Pier 6 Exit 2
V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some Sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Actinolite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/15/2002**
**Sampling Date and Time:** **4/13/02 0001 to 1200**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/13/02 | FB041302 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/13/02 | TB041302 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/13/02 | TTW-02548 | W | 1404 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/13/02 | TTW-02549 | Q | 1368 | Air | <7.0 | <0.002 | ****1 | ****1 | 32 | 0.0090 |
| 04/13/02 | TTW-02550 | E | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/13/02 | TTW-02551 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02552 | S-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02553 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02554 | V | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02555 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02556 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02557 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02558 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02559 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02560 | F | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02561 | F-Dup | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/13/02 | TTW-02562 | J | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/13/02 | TTW-02563 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02564 | M1 | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02565 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

**Sampling Locations:**
A: NE corner of West Broadway & Barclay
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C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
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H: South side of Chase Manhattan Plaza at Pine St.
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L: On walkway toward North Park rec area (north side of Suyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
M1 : West St. - 50 yards south of Harrison St. at bulkhead
N: South side of Pier 25 (next to volleyball ct)
P: NE corner of South End Ave. & Albany
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R: TAGA Bus Location
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T: Pier 6 Heliport
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V: Pier 6 Bus Sign
W: Wash Tent Common Area

**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA[1] - Not analyzed due to overloading of particulates
NA[2] - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/16/02**
**Sampling Date and Time:** **4/13/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/13/02 | TTW-02566 | W | 1152 | Air | <7.0 | <0.002 | ***1 | 0 | 13.33 | 0.0045 |
| 04/13/02 | TTW-02567 | Q | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/13/02 | TTW-02568 | E | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/13/02 | TTW-02569 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02571 | V | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/13/02 | TTW-02572 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02573 | D | 1440 | Air | <7.0 | <0.002 | 0 | *****1 | 16 | 0.0043 |
| 04/13/02 | TTW-02574 | C | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02575 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02576 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02577 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02578 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02579 | J-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02580 | N | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/13/02 | TTW-02581 | M1 | 1292 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0048 |
| 04/13/02 | TTW-02582 | L | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/13/02 | TTW-02583 | L-Dup | 1368 | Air | <7.0 | <0.002 | ***1 | 0 | 16 | 0.0045 |

*No Sample Submitted for Location U due to pump fault.*

**Sampling Locations:**
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**Key:**
* Some Sample volumes (filters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Tremolite
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
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NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 4/14/02 0001 to 1200

**Data Validation Date: 04/16/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/14/02 | FB041402 | Field Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 04/14/02 | TB041402 | Trip Blank | 0 | Air | <7.0 | n/a | NA[(2)] | NA[(2)] | NA[(2)] | NA[(2)] |
| 04/14/02 | TTW-02584 | W | 1440 | Air | <7.0 | <0.002 | ***2 | 0 | 32 | 0.0086 |
| 04/14/02 | TTW-02585 | Q | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/14/02 | TTW-02586 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02587 | S | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/14/02 | TTW-02588 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/14/02 | TTW-02589 | V | 1332 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/14/02 | TTW-02590 | K | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02591 | K-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02592 | D | 1368 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/14/02 | TTW-02593 | D-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02594 | C | 1440 | Air | 10.83 | 0.003 | ***1 | 0 | 16 | 0.0043 |
| 04/14/02 | TTW-02595 | B | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02596 | A | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/14/02 | TTW-02597 | F | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02598 | J | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/14/02 | TTW-02599 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02600 | M1 | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/14/02 | TTW-02601 | L | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |

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**Key:**
* Some sample volumes (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Extremely low sample volume collected
***** Amosite
NA(1) - Not analyzed due to overloading of particulates
NA(2) - Not analyzed for TEM
n/a - Not applicable
NR - Not requested
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FL-04-14-02-am.xls

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations** **Data Validation Date: 04/17/02**
**Sampling Date and Time:** **4/14/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/14/02 | TTW-02602 | W | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/14/02 | TTW-02603 | Q | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/14/02 | TTW-02604 | Q-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02605 | E | 1440 | Air | 7.01 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02606 | E-Dup | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/14/02 | TTW-02607 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02608 | U | 1512 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0041 |
| 04/14/02 | TTW-02609 | V | 1404 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/14/02 | TTW-02610 | K | 1440 | Air | 8.92 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02611 | D | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/14/02 | TTW-02612 | C | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02613 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/14/02 | TTW-02614 | A | 1440 | Air | 7.64 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02615 | F | 1440 | Air | <7.0 | <0.002 | NA (2) | NA (2) | NA (2) | NA (2) |
| 04/14/02 | TTW-02616 | J | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02617 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/14/02 | TTW-02618 | M1 | 1382.55 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/14/02 | TTW-02619 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

Please note: Sample # TTW-02615 was not analyzed for TEM.

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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results at Fixed Locations**
**Sampling Date and Time:** 4/15/02 0001 to 1200

**Data Validation Date: 04/17/2002**

| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S--f/cc** |
| 04/15/02 | FB041502 | Field Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/15/02 | TB041502 | Trip Blank | 0 | Air | <7.0 | n/a | NA[2] | NA[2] | NA[2] | NA[2] |
| 04/15/02 | TTW-02620 | W | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02621 | Q | 1368 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0045 |
| 04/15/02 | TTW-02622 | E | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02623 | S | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02624 | U | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/15/02 | TTW-02625 | V | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02626 | K | 1162 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/15/02 | TTW-02627 | D | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02628 | C | 1440 | Air | 8.28 | 0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02629 | C-Dup | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02630 | B | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/15/02 | TTW-02631 | B-Dup | 1476 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0042 |
| 04/15/02 | TTW-02632 | A | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02633 | F | 1238.2 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0041 |
| 04/15/02 | TTW-02634 | J | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02635 | N | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/15/02 | TTW-02636 | M1 | 1326.35 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0046 |
| 04/15/02 | TTW-02637 | L | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |

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** Structure (S) is roughly equivalent to fiber (f)
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**** Extremely low sample volume collected
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**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/12/02 0650 to 2126

**Data Validation Date: 04/16/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/12/02 | LF04011 | P-1 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04012 | P-2 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04013 | P-3 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04014 | P-4 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/12/02 | LF04015 | P-5 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04016 | P-6 | 1162.80 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/12/02 | LF04017 | P-7 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 04/12/02 | LF04018 | P-8 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04019 | W-12A | 1368.00 | Air | 11.46 | 0.003 | ***1 | 0 | 15.75 | 0.0044 |
| 04/12/02 | LF04020 | W-12B | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0040 |
| 04/12/02 | LF04021 | B-13 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 04/12/02 | LF04022 | B-14 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 04/12/02 | LF04023 | T-15 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04024 | T-16 | 1296.00 | Air | 14.01 | 0.004 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04025 | O-17 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/12/02 | LF04026 | O-18 | 1152.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0044 |
| 04/12/02 | LF04027 | O-19 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/12/02 | LF04028 | MPHS-20 | 1368.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0044 |
| 04/12/02 | LF04029 | P-6 Dup | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/12/02 | LF04030 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/12/02 | LF04031 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-12-02.xls

**NYC Response**
**Asbestos Air Sampling Results for Staten Island Landfill**
**Sampling Date and Times:** 4/9/02 0825 to 2114

**Data Validation Date: 04/14/2002**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume* | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S-f/cc** |
| 04/09/02 | LF03948 | P-1 | 1224.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0041 |
| 04/09/02 | LF03949 | P-2 | 1116.00 | Air | <7.0 | <0.002 | ***1 | 0 | 13.12 | 0.0045 |
| 04/09/02 | LF03950 | P-3 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/09/02 | LF03951 | P-4 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/09/02 | LF03952 | P-5 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/09/02 | LF03953 | P-6 | 1085.70 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0047 |
| 04/09/02 | LF03954 | P-7 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/09/02 | LF03955 | P-8 | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/09/02 | LF03956 | W-12A | 1404.00 | Air | 15.29 | 0.004 | 0 | 0 | <15.75 | <0.0043 |
| 04/09/02 | LF03957 | W-12B | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/09/02 | LF03958 | B-13 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/09/02 | LF03959 | B-14 | 1332.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0046 |
| 04/09/02 | LF03960 | T-15 | 1296.00 | Air | 7.64 | 0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/09/02 | LF03961 | T-16 | 1296.00 | Air | 16.56 | 0.005 | 0 | 0 | <15.75 | <0.0047 |
| 04/09/02 | LF03962 | O-17 | 1440.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0042 |
| 04/09/02 | LF03963 | O-18 | 1296.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0047 |
| 04/09/02 | LF03964 | O-19 | 1260.00 | Air | <7.0 | <0.002 | 0 | 0 | <15.75 | <0.0048 |
| 04/09/02 | LF03965 | MPHS-20 | 1188.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0043 |
| 04/09/02 | LF03966 | P-2 Dup | 1116.00 | Air | <7.0 | <0.002 | 0 | 0 | <13.12 | <0.0045 |
| 04/09/02 | LF03967 | Lot Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |
| 04/09/02 | LF03968 | Trip Blank | 0.00 | Air | <7.0 | n/a | NA(2) | NA(2) | NA(2) | NA(2) |

**Key:**

* Some sample volume (liters) are below recommended limit for the TEM method; volume is based on pump reading
** Structure (S) is roughly equivalent to fiber (f)
*** Chrysotile
**** Actinolite
*****Amosite
NA (1) - Not analyzed due to overloading of particulates
NA (2) - Not analyzed for TEM
NA (3) - Not analyzed due to wet filter
n/a - Not applicable
NC - Sample not collected
NS - Sample not submitted

**NIOSH 7400: Fiber Analysis of Air samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

FK-04-9-02.xls

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/16/02**
**Sampling Date and Time: 4/7/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm² | f/cc | Structures (#) 0.5µ - 5µ | Structures (#) 5µ | S/mm² | S~f/cc** |
| 04/07/02 | 7093-18-0192 | Park Row | 1400 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/07/02 | 7093-19-0192 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | 7093-15-0190 | I.S. 143 Manhattan | 1154 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/07/02 | 7094-09-0178 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | 7096-12-0186 | P.S. 199 (Queens) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/07/02 | 7095-98-0186 | P.S. 274 (Brooklyn) | 1070 | Air | <7.0 | <0.003 | 0 | 0 | <13.33 | <0.0048 |
| 04/07/02 | 7097-18-0183 | P.S. 44 (S.I) | 1178 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm², volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network** **Data Validation Date: 4/16/02**
**Sampling Date and Time: 4/10/02 1200 to 2400**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/10/02 | 7093-18-0195 | Park Row | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | 7093-19-0195 | Chambers Street | 1310 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/10/02 | 7093-15-0193 | I.S. 143 Manhattan | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | 7094-09-0181 | P.S. 154 (Bronx) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | 7096-12-0189 | P.S. 199 (Queens) | 1302 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0047 |
| 04/10/02 | 7095-98-0189 | P.S. 274 (Brooklyn) | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/10/02 | 7097-18-0186 | P.S. 44 (S I) | 1146 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |

**Key:**
*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**NYC Response**
**Asbestos Air Sampling Results for WTC Extended Network**
**Sampling Date and Time: 4/11/02 1200 to 2400**

**Data Validation Date: 4/17/02**

| | | | | | PCM by NIOSH 7400 | | TEM ( AHERA) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Structures (#) | | | |
| Sampling Date | Sample No. | Sampling Location | Sample Volume | Matrix | f/mm$^2$ | f/cc | 0.5µ - 5µ | 5µ | S/mm$^2$ | S~f/cc** |
| 04/11/02 | 7093-18-0195 | Park Row | 1218 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0042 |
| 04/11/02 | 7093-19-0196 | Chambers Street | 1440 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0043 |
| 04/11/02 | 7093-15-0194 | I.S. 143 Manhattan | 1178 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0044 |
| 04/11/02 | 7094-09-0182 | P.S. 154 (Bronx) | 1090 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0047 |
| 04/11/02 | 7096-12-0190 | P.S. 199 (Queens) | 1400 | Air | <7.0 | <0.002 | 0 | 0 | <16.00 | <0.0044 |
| 04/11/02 | 7095-98-0190 | P.S. 274 (Brooklyn) | 1140 | Air | <7.0 | <0.002 | 0 | 0 | <13.33 | <0.0045 |
| 04/11/02 | 7097-18-0187 | P.S. 44 (S I) | 740 | Air | <7.0 | <0.004 | 0 | 0 | <8.00 | <0.0042 |

**Key:**

*Structure (S) roughly equivalent to fiber (f)
** Sample volume is based on pump reading
*** Some Sample volume is below recommended limit for TEM analysis
**** Chrysotile
NR - analysis not requested
NS - Sample not submitted for analysis
n/a - Not applicable

**NIOSH 7400: Fiber Analysis of Air Samples via NIOSH 7400, Revision 3, Issue 2, 8/15/94**
**Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) EPA 40CFR Part 763 (AHERA)**
**Standard criteria: EPA 40CFR Part 763 (AHERA): 0.01 fiber/cc (PCM), 70 S/mm$^2$, volume 1200 L, for 25 mm filter (TEM)**

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/21/02**

| Sample No. | WG-7170-1P | | 06811 | | 06812 | | 06813 | | 06814 | | 06815 | | 06816 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | E | | P | | S | | S | | D | |
| Sample Volume (L) | 0 | | 7245 | | 6810 | | 7650 | | 7215 | | 7320 | | 6690 | |
| Analyte | Result ng | MDL ng | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ |
| 209-DeCB | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of MoCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of DiCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of TrCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of TeCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of PeCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of HxCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of HpCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of OcCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Sum of NoCBs | U | 10.0 | U | 1.38 | U | 1.47 | U | 1.31 | U | 1.39 | U | 1.37 | U | 1.49 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/21/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 4/17/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/21/02**

| Sample No. | 06817 | | 06818 | | 06819 | | 06820 | | 06821 | | 06822 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7530 | | 6180 | | 7845 | | 5295 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DcCB | U | 1.33 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.31 | U | 1.62 | U | 1.27 | U | 1.89 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/21/02-Dioxin

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/27/02**

| Sample No. | WG-7185-1P | | 06823 | | 06824 | | 06825 | | 06826 | | 06827 | | 06828 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | Method Blank | | R | | R | | E | | P | | S | | D | |
| Sample Volume (L) | 0 | | 5085 | | 5775 | | 5880 | | 7485 | | 6390 | | 5190 | |
| Analyte | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL | Result | MDL |
| | ng | ng | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ | ng/m$^3$ |
| 209-DeCB | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of MoCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of DiCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of TrCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of TeCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of PeCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of HxCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of HpCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of OcCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Sum of NoCBs | U | 10.0 | U | 1.97 | U | 1.73 | U | 1.70 | U | 1.34 | U | 1.56 | U | 1.93 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/27/02-Dioxin

**Sampling Locations:**

A: NE corner of West Broadway & Barclay
B: SE corner of Church & Dey St.
C: Trinity (a.k.a. Church) & Liberty
C1: SW corner of Broadway & Liberty St.
D: East end of Albany St. at Greenwich St.
E: Western end of Liberty St. at South End Ave
F: Northern median strip of Vesey & West St
G: Church and Duane St.
H: South side of Chase Manhattan Plaza at Pine St.
I: SE corner of Wall St. & Broadway
J: NE corner of Warren & West St.
K: West St. & Albany in median strip
L: On walkway toward North Park rec area (north side of Stuyvesant High), access to TAGA bus area
M: Western end of Harrison St. at West St. (on tree next to bulkhead)
N: South side of Pier 25 (next to volleyball court)
P: NE corner of South End Ave. & Albany
Q: Barclay & West St. (center island) in proximity to USCG command post
R: TAGA Bus Location
S: Rector & South End

Loc 3: SW side of WTC5
Loc 3A: Between WTC4 and WTC5
Loc 3B: Church & Vesey

U: denotes not detected
MDL: denotes method detection limit

ERT: 4/17/02

**WTC Emergency Response**
**Air Samples - Modified Method 680 PCB results**
**Sampling Date 03/27/02**

| Sample No. | 06829 | | 06830 | | 06831 | | 06832 | | 06833 | | 06834 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Location | C | | B | | 3A | | A | | Field Blank | | Lot Blank | |
| Sample Volume (L) | 7605 | | 7260 | | 5535 | | 6600 | | 0 | | 0 | |
| Analyte | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result $ng/m^3$ | MDL $ng/m^3$ | Result ng | MDL ng | Result ng | MDL ng |
| 209-DcCB | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of MoCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of DiCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of TrCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of TeCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of PeCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of HxCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of HpCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of OcCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Sum of NoCBs | U | 1.31 | U | 1.38 | U | 1.81 | U | 1.52 | U | 10.0 | U | 10.0 |
| Total | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

COC# 03/27/02-Dioxin

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 18, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D089 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 40.8 | 2012.1 |
| 3 | 74.198685 | 40.570054 | D075 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 33.0 | 857.7 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D074 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 32.4 | 2146.7 |
| 6 | 74.207406 | 40.563818 | D065 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 30.9 | 670.6 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D088 | 1 | 900 | 07:30 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 34.2 | 937.9 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 18, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0624 | 0627 | 0622 |
| Stop Time | 1430 | 1434 | 1429 |
| Run Time (minutes) | 486 | 487 | 487 |
| Maximum Concentration ($ug/m^3$) | 58.06 | 73.84 | 58.03 |
| Average Concentration ($ug/m^3$) | 28.18 | 26.85 | 29.70 |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/18/02**

| File Name | NYC1576 | NYC1577 | NYC1578 | NYC1579 | NYC1581 | NYC1580 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07735 | A07736 | A07737 | A07738 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | 690 | RL |
| Acetone | RL | RL | RL | RL | 43 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## U.S. Environmental Protection Agency (EPA)
## Daily Summary
## Saturday-Monday, April 20-22, 2002

The U.S. Environmental Protection Agency (EPA) and other federal, state and local agencies have collected extensive environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Since September 11, EPA has taken samples of the air, dust, water, river sediments and drinking water and analyzed them for the presence of pollutants that might pose a health risk to response workers at the World Trade Center site and the public. The samples are evaluated against a variety of benchmarks, standards and guidelines established to protect public health under various conditions. EPA is collecting data from more than 20 fixed monitors in and around ground zero and additional monitors in the Bronx, Brooklyn, Queens and Staten Island. The Agency is also using portable sampling equipment to collect data from a range of locations.

**Most Recent Results as of 4:15 p.m. on April 22**

Lower Manhattan:

**Air Sampling for Particulates** - EPA collected samples from April 19 through April 21 at Location "L" (northeast side of Stuyvesant High School) and Location "N" (south side of Pier 25). EPA also collected samples on April 19 and April 20 at Location "R" (northwest side of Stuyvesant High School). All readings were below the OSHA time-weighted permissible exposure limit for particulates.

**Air Sampling for VOC's** - Sampling for volatile organic compounds (VOC's) was conducted from April 19 through April 21 in the direct area of the excavation at ground zero. To protect workers at the work site, EPA takes grab samples of VOC's where smoke plumes have been sighted. The results are snapshots of the levels at a moment in time. OSHA's protective standards set a permissible exposure limit (PEL) averaged over an 8-hour day.

All samples taken from April 19 through April 21 at EPA's Wash Tent (West & Murray Streets), Austin Tobin Plaza, and the North Tower and South Tower excavation areas either showed no detectable levels of VOCs, or the levels of VOCs did not exceed OSHA standards.

Staten Island Landfill:

**Air Sampling for Particulates** - There were no significant readings from samples collected on April 20 and April 21.

**U.S. Environmental Protection Agency (*www.epa.gov*)**
**Sampling Situation Report**
**Monday, April 22, 2002**

Fixed Ambient Air Sampling Locations (Asbestos)

NYC / ER (Apr 3, 0001 - 1200 hrs)

Results pending.

Landfill Ambient Air Sampling Locations

Fresh Kills (Apr 7)

Results pending.

Fresh Kills (Apr 13)

Results pending.

Fresh Kills (Apr 20) - Particulate Monitoring (Dataram)

Nothing of significance reported at four stations (P-2, P-3, P-6, and P-8) based on daily average concentrations.
Particulate measurements were not taken at Location P-5 due to an equipment malfunction.
Shortened monitoring period due to the weather conditions.

Fresh Kills (Apr 21) - Particulate Monitoring (Dataram)

Nothing of significance reported at five stations (P-2, P-3, P-5, P-6, and P-8) based on daily average concentrations.

Fresh Kills (Apr 22) - Particulate Monitoring (Dataram)

Particulate measurements were not taken due to weather conditions.

Ambient Air Sampling Locations

NYC / ER (Mar 10) - Asbestos Monitoring (Particulate Monitoring Stations - 'Extended Network')

Results pending.

NYC / ER (Apr 19) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 8 hours.
Location L had an average of 60.65 ug/$m^3$ with a maximum reading of 118.95 ug/$m^3$.
Location N had an average of 53.26 ug/$m^3$ with a maximum reading of 107.03 ug/$m^3$.
Location R had a maximum reading of 117.29 ug/$m^3$ (the average concentration was rejected).

NYC / ER (Apr 20) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L, N, and R were below the OSHA TWA.
Instruments operated approximately 5 hours.
Location L had an average of 21.38 ug/$m^3$ with a maximum reading of 48.99 ug/$m^3$.
Location N had an average of 23.00 ug/$m^3$ with a maximum reading of 53.89 ug/$m^3$.
Location R had an average of 25.73 ug/$m^3$ with a maximum reading of 72.40 ug/$m^3$.

NYC / ER (Apr 21) - Particulate Monitoring (Dataram)

Particulate levels noted at Locations L and N were below the OSHA TWA.
Instruments operated approximately 8 hours.
Location L had an average of 9.27 ug/$m^3$ with a maximum reading of 26.25 ug/$m^3$.
Location N had a maximum reading of 11.23 ug/$m^3$ (the average concentration was rejected).
Particulate measurements were not taken at Station R due to vandalism.

NYC / ER (Apr 19) - Volatile Organics (Mobile Laboratory)

Volatile organic compounds were not detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 20) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected at the North Tower, no other volatiles were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

NYC / ER (Apr 21) - Volatile Organics (Mobile Laboratory)

Aside from one volatile organic compound detected at the South Tower, no other volatiles were detected above the detection limit (20 ppbv) in any of the four samples collected (Washing Tent, Austin Tobin Plaza, North Tower, and South Tower).

Daily DataRam Particulate Monitoring Summary Sheet
Staten Island Landfill
April 21, 2002

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D075 | 1 | 929 | 07:44 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 5.89 | 1074.8 |
| 3 | 74.198685 | 40.570054 | D088 | 1 | 923 | 07:41 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.68 | 3773.3 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D089 | 1 | 913 | 07:36 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 18.06 | 2682.3 |
| 6 | 74.207406 | 40.563818 | D074 | 1 | 535 | 04:27 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.11 | 833.91 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D065 | 1 | 871 | 07:15 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 13.09 | 665.35 |

**Daily DataRam Particulate Monitoring Summary Sheet**
**Staten Island Landfill**
**April 20, 2002**

| Perimeter Location | Longitude | Latitude | DataRam Serial # | Tag # | Logged Points | Elapsed Time (hrs.) | Avg. Time (sec.) | Logging Periods | Calibration Factor | STEL ug/m3 | Min. Conc. ug/m3 | Avg. Conc. ug/m3 | Max. Conc. ug/m3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.199795 | 40.565139 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 2 | 74.198262 | 40.566883 | D074 | 1 | 535 | 04:27 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 19.11 | 833.91 |
| 3 | 74.198685 | 40.570054 | D065 | 1 | 520 | 04:19 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 17.84 | 252.75 |
| 4 | 74.201380 | 40.569790 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 5 | 74.205873 | 40.568892 | D075 | 1 | 1 | N/a | 10 | 00:00:30 | 1 | 0.0 | 0.1 | N/a | N/a |
| 6 | 74.207406 | 40.563818 | D088 | 1 | 472 | 03:56 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 16.72 | 705.45 |
| 7 | 74.205414 | 40.560434 | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a |
| 8 | 74.203019 | 40.561915 | D089 | 1 | 430 | 03:35 | 10 | 00:00:30 | 1 | 0.0 | 0.1 | 24.82 | 1586.2 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 21, 2002

| Location | L | N | R* |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | - |
| Start Time | 0643 | 0648 | - |
| Stop Time | 1433 | 1437 | - |
| Run Time (minutes) | 470 | 469 | - |
| Maximum Concentration ($ug/m^3$) | 26.25 | 11.23 | - |
| Average Concentration ($ug/m^3$) | 9.27 | - | - |

* equipment vandalized

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 20, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0632 | 0636 | 0631 |
| Stop Time | 1149 | 1153 | 1148 |
| Run Time (minutes) | 517 | 517 | 517 |
| Maximum Concentration ($ug/m^3$) | 48.99 | 53.89 | 72.40 |
| Average Concentration ($ug/m^3$) | 21.38 | 23.00 | 25.73 |

**United States Environmental Protection Agency**
**DataRAM Monitoring Work Sheet**

Site: World Trade Center
Date: April 19, 2002

| Location | L | N | R |
|---|---|---|---|
| DataRAM I.D. No. | D080 | D081 | D076 |
| Flow Rate (liters/minute) | 2.0 | 2.0 | 2.0 |
| Start Time | 0641 | 0645 | 0639 |
| Stop Time | 1432 | 1436 | 1431 |
| Run Time (minutes) | 471 | 471 | 472 |
| Maximum Concentration ($ug/m^3$) | 118.95 | 107.03 | 117.29 |
| Average Concentration ($ug/m^3$) | 60.65 | 53.26 | - |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/21/02**

| File Name | NYC1604 | NYC1605 | NYC1606 | NYC1607 | NYC1609 | NYC1608 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07747 | A07748 | A07749 | A07750 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | 23 |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/20/02**

| File Name | NYC1596 | NYC1597 | NYC1598 | NYC1599 | NYC1601 | NYC1600 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent | Austin Tobin Plaza | North Tower | South Tower |
| | | | Ambient Air | | | |
| Sample Number | | | A07743 | A07744 | A07745 | A07746 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppb, | ppb, | ppb, | ppb, | ppb, | ppb, |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | 320 | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

**NO QC EVALUATION HAS BEEN PERFORMED,**
**DATA VALIDITY IS UNSUBSTANTIATED**
**AND THE DATA SHOULD BE USED WITH DISCRETION**
**WTC TEDLAR BAG AIR ANALYSIS, TO-15 MODIFIED METHOD**
**DRAFT GC/MS Results for 04/19/02**

| File Name | NYC1588 | NYC1589 | NYC1590 | NYC1591 | NYC1593 | NYC1592 |
|---|---|---|---|---|---|---|
| Sample Location | Instrument Blank | Tedlar Bag Blank | Washing Tent Ambient Air | Austin Tobin Plaza | North Tower | South Tower |
| Sample Number | | | A07739 | A07740 | A07741 | A07742 |
| Sample Height | | | Breathing Level | Breathing Level | Ground Level | Ground Level |
| Sample Volume | | 250 mL | 250 mL | 250 mL | 250 mL | 250 mL |
| Reporting Limit (RL) | 20 | 20 | 20 | 20 | 20 | 20 |
| Sample Conc. Units | ppbv | ppbv | ppbv | ppbv | ppbv | ppbv |
| Propylene | RL | RL | RL | RL | RL | RL |
| Chlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorodifluoromethane | RL | RL | RL | RL | RL | RL |
| Dichlorotetrafluoroethane | RL | RL | RL | RL | RL | RL |
| Chloromethane | RL | RL | RL | RL | RL | RL |
| Vinyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,3-Butadiene | RL | RL | RL | RL | RL | RL |
| Bromomethane | RL | RL | RL | RL | RL | RL |
| Chloroethane | RL | RL | RL | RL | RL | RL |
| Trichlorofluoromethane | RL | RL | RL | RL | RL | RL |
| Isopropyl Alcohol | RL | RL | RL | RL | RL | RL |
| Acetone | RL | RL | RL | RL | RL | RL |
| Trichlorotrifluoroethane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethene | RL | RL | RL | RL | RL | RL |
| 3-Chloropropene | RL | RL | RL | RL | RL | RL |
| Methylene Chloride | RL | RL | RL | RL | RL | RL |
| MTBE | RL | RL | RL | RL | RL | RL |
| trans-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Hexane | RL | RL | RL | RL | RL | RL |
| 1,1-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Vinyl Acetate | RL | RL | RL | RL | RL | RL |
| 2-Butanone | RL | RL | RL | RL | RL | RL |
| cis-1,2-Dichloroethene | RL | RL | RL | RL | RL | RL |
| Ethyl Acetate | RL | RL | RL | RL | RL | RL |
| Chloroform | RL | RL | RL | RL | RL | RL |
| Tetrahydrofuran | RL | RL | RL | RL | RL | RL |
| 1,1,1-Trichloroethane | RL | RL | RL | RL | RL | RL |
| Cyclohexane | RL | RL | RL | RL | RL | RL |
| Carbon Tetrachloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloroethane | RL | RL | RL | RL | RL | RL |
| Benzene | RL | RL | RL | RL | RL | RL |
| Heptane | RL | RL | RL | RL | RL | RL |
| Trichloroethene | RL | RL | RL | RL | RL | RL |
| 1,2-Dichloropropane | RL | RL | RL | RL | RL | RL |
| 1,4-Dioxane | RL | RL | RL | RL | RL | RL |
| Methyl Isobutyl Ketone | RL | RL | RL | RL | RL | RL |
| cis-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| Toluene | RL | RL | RL | RL | RL | RL |
| trans-1,3-Dichloropropene | RL | RL | RL | RL | RL | RL |
| 1,1,2-Trichloroethane | RL | RL | RL | RL | RL | RL |
| 2-Hexanone | RL | RL | RL | RL | RL | RL |
| Tetrachloroethene | RL | RL | RL | RL | RL | RL |
| Dibromochloromethane | RL | RL | RL | RL | RL | RL |
| 1,2-Dibromoethane | RL | RL | RL | RL | RL | RL |
| Chlorobenzene | RL | RL | RL | RL | RL | RL |
| Ethylbenzene | RL | RL | RL | RL | RL | RL |
| m&p-Xylenes | RL | RL | RL | RL | RL | RL |
| o-Xylene | RL | RL | RL | RL | RL | RL |
| Styrene | RL | RL | RL | RL | RL | RL |
| Bromoform | RL | RL | RL | RL | RL | RL |
| 1,1,2,2-Tetrachloroethane | RL | RL | RL | RL | RL | RL |
| 4-Ethyltoluene | RL | RL | RL | RL | RL | RL |
| 1,3,5-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trimethylbenzene | RL | RL | RL | RL | RL | RL |
| 1,3-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,4-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| Benzyl Chloride | RL | RL | RL | RL | RL | RL |
| 1,2-Dichlorobenzene | RL | RL | RL | RL | RL | RL |
| 1,2,4-Trichlorobenzene | RL | RL | RL | RL | RL | RL |
| Hexachloro-1,3-Butadiene | RL | RL | RL | RL | RL | RL |

## ATTACHMENT 4

### ENVIRONMENTAL PROTECTION AGENCY

### EPA PERSONAL SAFETY & HEALTH PROTECTION RECOMMENDATIONS FOR SEARCH AND RESCUE PERSONNEL

#### PERSONAL PROTECTION EQUIPMENT (PPE)

All personnel in the work area should wear the following:
- Hard hats.
- Steel-toed/heavy duty work shoes.
- Long pants and long sleeve work shirts.
- Safety glasses/eye protection.
- Respiratory protection.

Ground zero: Approved respirator (P–100 or equivalent).
Other areas: Dust mask (N–100/R–100 or equivalent).

#### WORK AREA SAFETY CONCERNS

- Watch surroundings at all times.
- Be alert for materials and debris that may fall from damaged buildings.
- Cap and secure unused pressurized cylinders.
- As far as practical, try to keep the generation of dusts to a minimum.
- Use the buddy system.

#### WORK AREA HEALTH CONCERNS

- Clean respirators and eye wear as frequently as possible.
- No consumption of foods that have not been covered or properly sealed.
- When leaving work area:

Dust off clothing.
Clean or scrape off shoes.
Wash hands and face.

#### HEAVY EQUIPMENT OPERATIONS

- Stand clear of operating equipment and vehicles.
- Avoid entering crane swing radius.
- Use tag lines when lifting loads.
- Use spotter during lifting operations and for personnel safety in area (no lifting over personnel/equipment).
- All equipment operators wear proper PPE when leaving equipment (see above).
- Be cautious of operating speeds in work areas and especially when leaving the area.

Recommend speeds no faster than 10 mph until outside hazard areas.

#### EMERGENCY SIGNALS

- *Immediately Stop Work/Evaluate Area:* Three (3) repeated short blasts of siren/air horn.
- *Stop Work/Remain Silent:* One (1) long blast of siren/air horn.
- *Restart Work:* One (1) long and two (2) short blasts of siren/air horns.

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## ATTACHMENT 5

### ASBESTOS HAZARDS AND PRECAUTIONS

In response to the World Trade Center devastation, concerns have been raised with breathing asbestos-contaminated material and irritation from skin and eye contact. Asbestos was likely used in various construction materials used to build the World Trade Center. Short-term exposure to asbestos can cause respiratory, skin, or eye irritation. These symptoms can also be experienced from contact with non-asbestos dust, such as a concrete particulate debris.

For the public the best response is to remain indoors with windows shut if possible. For emergency workers air purifying respirators should be used when available but paper filament masks will provide sufficient protection under minimal exposure conditions.

Cleanup workers should be protected with appropriate eye protection, air purifying respirators and personal protective clothing, such as TYVEKs, to prevent skin irritation. Workers should practice basic decontamination procedures, such as washing hands and faces. To minimize air-borne contamination, debris should be misted or sprayed with water during cleanup operations.

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ATTACHMENT 6

EPA PRESS RELEASE: EPA RESPONSE TO SEPTEMBER 11

SEPTEMBER 13, 2001

EPA INITIATES EMERGENCY RESPONSE ACTIVITIES, REASSURES PUBLIC ABOUT ENVIRONMENTAL HAZARDS

U.S. Environmental Protection Agency Administrator Christie Whitman today announced that EPA is taking steps to ensure the safety of rescue workers and the public at the World Trade Center and the Pentagon disaster sites, and to protect the environment. EPA is working with State, Federal, and local agencies to monitor and respond to potential environmental hazards and minimize any environmental effects of the disasters and their aftermath.

At the request of the New York City Department of Health, EPA and the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) have been on the scene at the World Trade Center monitoring exposure to potentially contaminated dust and debris. Monitoring and sampling conducted on Tuesday and Wednesday have been very reassuring about potential exposure of rescue crews and the public to environmental contaminants.

EPA's primary concern is to ensure that rescue workers and the public are not exposed to elevated levels of asbestos, acidic gases or other contaminants from the debris. Sampling of ambient air quality found either no asbestos or very low levels of asbestos. Sampling of bulk materials and dust found generally low levels of asbestos.

The levels of lead, asbestos and volatile organic compounds in air samples taken on Tuesday in Brooklyn, downwind from the World Trade Center site, were not detectable or not of concern.

Additional sampling of both ambient air quality and dust particles was conducted Wednesday night in Lower Manhattan and Brooklyn, and results were uniformly acceptable.

"EPA is greatly relieved to have learned that there appears to be no significant levels of asbestos dust in the air in New York City," said Administrator Whitman. "We are working closely with rescue crews to ensure that all appropriate precautions are taken. We will continue to monitor closely."

Public health concerns about asbestos contamination are primarily related to long-term exposure. Short-term, low-level exposure of the type that might have been produced by the collapse of the World Trade Center buildings is unlikely to cause significant health effects. EPA and OSHA will work closely with rescue and cleanup crews to minimize their potential exposure, but the general public should be very reassured by initial sampling.

EPA and OSHA will continue to monitor and sample for asbestos, and will work with the appropriate officials to ensure that rescue workers, cleanup crews and the general public are properly informed about appropriate steps that should be taken to ensure proper handling, transportation and disposal of potentially contaminated debris or materials.

EPA is taking steps to ensure that response units implement appropriate engineering controls to minimize environmental hazards, such as water sprays and rinsing to prevent or minimize potential exposure and limit releases of potential contaminants beyond the debris site.

EPA is also conducting downwind sampling for potential chemical and asbestos releases from the World Trade Center debris site. In addition, EPA has deployed Federal On-Scene Coordinators to the Washington, DC Emergency Operations Center, Fort Meade, and FEMA's alternate Regional Operations Center in Pennsylvania, and has deployed an On-Scene Coordinator to the Virginia Emergency Operations Center.

Under its response authority, EPA will use all available resources and staff experts to facilitate a safe emergency response and cleanup.

EPA will work with other involved agencies as needed to:

• procure and distribute respiratory and eye protection equipment in cooperation with the Department of Health and Human Services;
• provide health and safety training upon request;
• design and implement a site monitoring plan;
• provide technical assistance for site control and decontamination; and
• provide some 3000 asbestos respirators, 60 self-contained breathing apparatuses and 10,000 protective clothing suits to the two disaster sites.

New York Governor George E. Pataki has promised to provide emergency electric generators to New York City in efforts to restore lost power caused by Tuesday's tragedy, and EPA will work with State authorities to expedite any necessary permits for those generators.

OSHA is also working with Consolidated Edison regarding safety standards for employees who are digging trenches because of leaking gas lines underground. OSHA has advised Con Edison to provide its employees with appropriate respirators so they can proceed with emergency work, shutting off gas leaks in the city.

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ATTACHMENT 7

EPA PRESS RELEASE: EPA RESPONSE TO SEPTEMBER 11

SEPTEMBER 14, 2001

EPA EMERGENCY RESPONSES AT WORLD TRADE CENTER AND PENTAGON

After terrorists struck the World Trade Center and the Pentagon on September 11, 2001, 26 EPA specialists were on the scene within hours. Currently, more than 225 EPA experts are responding to the WTC and Pentagon disasters. EPA criminal investigators, forensic and technical specialists and emergency response experts are providing support to FEMA, the FBI and local emergency officials. EPA is one of many Federal agencies responsible for responding to this national crisis.

The primary mission of EPA's Emergency Response Program is to protect the public and the environment from immediate threats posed by the release or discharge of hazardous substances and oil. Emergency response personnel are monitoring potential air quality issues; analyzing samples for asbestos and other hazardous materials and oil sampling; and disposing of biomedical waste. EPA has worked with the State of New York and Virginia to waive landfill amount requirements to expedite the removal of debris from the scenes.

EPA has initially budgeted $600,000 to provide technical assistance and response support. More than 3,000 respirators, 60 self-contained breathing apparatus machines, and 10,000 specially-equipped protective suits are on the way to these disaster sites. EPA is working closely with Federal, State, and local partners to ensure that all workers and volunteers involved in the rescue and cleanup efforts are properly protected.

EPA Region 2 emergency response staff are also stationed at the FBI Joint Operations Center in New York City, Trenton, New Jersey Emergency Operations Center, and FEMA's office in Albany, NY. Region 2's Edison, NJ office is also providing work space for 100 FEMA employees. EPA HQ Emergency Operations Center is operating on a 24-hour basis, while R3 has emergency responders deployed to Washington, DC., Ft. Meade and at the Willow Grove Naval Air Station in Pennsylvania.

EPA will continue to coordinate with our Federal partners to ensure the health and safety of the public and the environment during this national crisis.

More information is available at: *EPA's Environmental Response Team Center, EPA's Oil Spill Program, and EPA's Superfund Program.*

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ATTACHMENT 8

EPA PRESS RELEASE: EPA RESPONSE TO SEPTEMBER 11

SEPTEMBER 18, 2001

WHITMAN DETAILS ONGOING AGENCY EFFORTS TO MONITOR DISASTER SITES, CONTRIBUTE TO CLEANUP EFFORTS

EPA Administrator Christie Whitman announced today that results from the Agency's air and drinking water monitoring near the World Trade Center and Pentagon disaster sites indicate that these vital resources are safe. Whitman also announced that EPA has been given up to $83 million from the Federal Emergency

Management Agency (FEMA) to support EPA's involvement in cleanup activities and ongoing monitoring of environmental conditions in both the New York City and Washington metropolitan areas following last week's terrorist attacks on the World Trade Center and the Pentagon.

"We are very encouraged that the results from our monitoring of air quality and drinking water conditions in both New York and near the Pentagon show that the public in these areas is not being exposed to excessive levels of asbestos or other harmful substances," Whitman said. "Given the scope of the tragedy from last week, I am glad to reassure the people of New York and Washington, DC that their air is safe to breath and their water is safe to drink," she added.

In the aftermath of last Tuesday's attacks, EPA has worked closely with State, Federal and local authorities to provide expertise on cleanup methods for hazardous materials, as well as to detect whether any contaminants are found in ambient air quality monitoring, sampling of drinking water sources and sampling of runoff near the disaster sites.

At the request of FEMA, EPA has been involved in the cleanup and site monitoring efforts, working closely with the U.S. Coast Guard, the Centers for Disease Control (CDC), the Occupational Safety and Health Administration (OSHA) and State and local organizations.

EPA has conducted repeated monitoring of ambient air at the site of the World Trade Center and in the general Wall Street district of Manhattan, as well as in Brooklyn. The Agency is planning to perform air monitoring in the surrounding New York metropolitan area. EPA has established 10 continuous (stationary) air monitoring stations near the WTC site. Thus far, from 50 air samples taken, the vast majority of results are either non-detectable or below established levels of concern for asbestos, lead and volatile organic compounds. The highest levels of asbestos have been detected within one-half block of Ground Zero, where rescuers have been provided with appropriate protective equipment.

In Lower Manhattan, the City of New York has also been involved in efforts to clean anything coated with debris dust resulting from Tuesday's destruction. This involves spraying water over buildings, streets and sidewalks to wash the accumulated dust off the building and eliminate the possibility that materials would become airborne. To complement this clean-up effort, EPA has performed 62 dust sample analyses for the presence of asbestos and other substances. Most dust samples fall below EPA's definition of "asbestos containing material" (one percent asbestos). Where samples have shown greater than 1 percent asbestos, EPA has operated its 10 High Efficiency Particulate Arresting, HEPA, vacuum trucks to clean the area and then resample. EPA also used the 10 HEPA vac trucks to clean streets and sidewalks in the Financial District in preparation for Monday's return to business. The Agency plans to use HEPA vac trucks to clean the lobbies of the five Federal buildings near the World Trade Center site, and to clean the streets outside of New York's City Hall.

Drinking water in Manhattan was tested at 13 sampling points, in addition to one test at the Newtown Sewage Treatment plant and pump station. Initial results of this drinking water sampling show that levels of asbestos are well below EPA's levels of concern.

While FEMA has provided EPA with a Total Project Ceiling cost of slightly more than $83 million for the Agency's cleanup efforts in New York City and in at the Pentagon site, EPA currently is working with emergency funding of $23.7 million. If costs exceed this level, FEMA will authorize EPA to tap additional funding in increments of $15 million. As part of the additional funding to be provided by FEMA, EPA will be responsible for any hazardous waste disposal, general site safety and providing sanitation facilities for many of the search and rescue workers to wash the dust off following their shifts. EPA is coordinating with both the U.S. Air Force Center for Environmental Excellence and the U.S. Coast Guard to quickly implement these additional responsibilities to ensure that search and rescue personnel are provided with the maximum support and protection from hazardous materials that may be found during their mission.

At the Pentagon explosion site in Arlington, VA, EPA has also been involved in a variety of monitoring of air and water quality. All ambient air monitoring results, both close to the crash site and in the general vicinity, have shown either no detection of asbestos or levels that fall well below the Agency's level of concern. Testing of runoff water from the disaster site does not show elevated levels of contaminants. Given the large numbers of Department of Defense (DOD) employees returning to work this week, EPA has worked closely with officials from DOD and from the Occupational Safety and Health Administration (OSHA) to evaluate air and drinking water quality and to be certain that the workplace environment will be safe.

While careful not to impede the search, rescue and cleanup efforts at either the World Trade Center or the Pentagon disaster sites, EPA's primary concern has been to ensure that rescue workers and the public are not being exposed to elevated levels of potentially hazardous contaminants in the dust and debris, especially where practical solutions are available to reduce exposure. EPA has assisted efforts to provide dust masks to rescue workers to minimize inhalation of dust. EPA also recommends that the blast site debris continue to be kept wet, which helps to significantly reduce the amount of airborne dust which can aggravate respiratory ailments such as asthma. On-site facilities are being made available for rescue workers to clean themselves, change their clothing and to have dust-laden clothes cleaned separately from normal household wash.

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ATTACHMENT 9

EPA PRESS RELEASE: EPA RESPONSE TO SEPTEMBER 11

SEPTEMBER 21, 2001

NYC MONITORING EFFORTS CONTINUE TO SHOW SAFE DRINKING WATER & AIR

EPA Administrator Christie Whitman announced today that the most detailed results to date of ongoing monitoring of drinking water in New York City provide additional reassurance that city residents are not being exposed to dangerous contaminants including asbestos, radiation, mercury and other metals, pesticides, PCBs and bacteria.

"As we continue to monitor drinking water in and around New York City, and as EPA gets more comprehensive analysis of this monitoring data, I am relieved to be able to reassure New York and New Jersey residents that a host of potential contaminants are either not detectable or are below the Agency's concern levels," Whitman said. "Results we have just received on drinking water quality show that not only is asbestos not detectable, but also we can not detect any bacterial contamination, PCBs or pesticides," she continued.

Whitman confirmed that EPA personnel, working in coordination with the New York City Department of Environmental Protection at and around the World Trade Center disaster site, have thus far taken a total of 13 drinking water samples from water mains in Lower Manhattan. In addition to analyzing the samples for asbestos, pesticides and PCBs (polychlorinated biphenyls, which are mixtures of synthetic organic chemicals), EPA has also tested drinking water for metals (including mercury), and radioactivity (both alpha and beta). None of these contaminants exceeded EPA drinking water standards.

"In addition to carefully evaluating drinking water in the New York area, EPA has taken samples at the Newtown Creek Wastewater Treatment Plant, where runoff from Lower Manhattan goes for treatment, to identify what sort of materials are leaving the disaster site," Whitman continued. "While we haven't yet gotten results for all possible contaminants, we do know that levels of metals and mercury are below permit discharge limits," she noted. However, Whitman did state that "following one rainstorm with particularly high runoff, we did have one isolated detection of slightly elevated levels of PCBs. This is something that we are continuing to monitor very closely." Other analysis of monitoring data taken at Newtown Creek treatment plant shows that total suspended solids and biochemical oxygen demand, common indicators of how well a wastewater treatment plant is operating, indicate that the plant is working within permit limits. The Agency will continue to collect water samples at storm water discharge points when it rains and to fully analyze the samples for asbestos, PCBs, metals and total suspended solids.

Whitman elaborated on the repeated monitoring of ambient air both at the World Trade Center disaster site and the surrounding area. To date the Agency has taken 97 air samples from 11 separate fixed monitoring sites in and around the "hot zone" and elsewhere in Lower Manhattan, and four fixed monitoring sites located in New Jersey downwind from the blast. Only seven samples taken at or near Ground Zero have had marginally higher levels of asbestos that exceed EPA's level of concern. All rescue workers in this restricted-access area are being provided with appropriate safety equipment. Ambient air monitoring in the Financial District, where this week people have returned to work, show levels of asbestos that are below Agency levels of concern. Four samples taken specifically to identify if mercury is present resulted in non-detectable readings. On September 19, EPA also took readings of outdoor air at numerous locations around Ground Zero for chemicals including hydrogen sulfide, volatile organic compounds (VOCs), carbon monoxide and sulfur dioxide. All read-

ings indicated that levels were normal and posed no public health concern. All air samples taken in New Jersey have shown no detectable levels of asbestos whatsoever.

EPA has set up eight air monitors at the Fresh Kills Landfill on Staten Island, where debris from the collapsed World Trade Center towers is being sent for criminal and forensic analysis, and eventual disposal. Initial results show no detectable levels of asbestos. The Agency will continue to operate these air monitors at the landfill and will test for asbestos and for particulate matter.

Whitman detailed dust sampling undertaken thus far at the World Trade Center site, and confirmed that EPA has done a total of 101 dust samples, of which 37 were slightly over the 1 percent asbestos (the amount above which material is considered asbestos-containing). EPA has continued to use its 10 High Efficiency Particulate Arresting (HEPA) filter vacuum trucks, especially in areas where dust samples show any elevated levels of asbestos. Of the 16 samples taken in the Battery Park City area, a residential community within two blocks of the disaster site, 12 showed slightly elevated levels of asbestos. After using the HEPA Vac trucks to clean streets and surfaces in Battery Park City, repeat sampling in the area showed asbestos levels that fall below concern amounts. EPA will continue to monitor this area. The HEPA Vac trucks were also used to vacuum lobbies of Federal buildings near the disaster site prior to having workers return.

Monitoring and cleanup efforts also continue at the Pentagon crash site. To date, EPA has taken 140 total samples, including ambient air samples, bulk debris analysis, silica and water discharge samples. Monitoring samples have been analyzed for asbestos and other hazardous materials.

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## ATTACHMENT 10

### EPA RESPONSE TO SEPTEMBER 11

### EPA AND OSHA WEB SITES PROVIDE ENVIRONMENTAL MONITORING DATA FROM WORLD TRADE CENTER AND SURROUNDING AREAS

DATA CONFIRMS NO SIGNIFICANT PUBLIC HEALTH RISKS; RESCUE CREWS AND NEARBY RESIDENTS SHOULD TAKE APPROPRIATE PRECAUTIONS DATA THROUGH SEPTEMBER 30, 2001

U.S. Environmental Protection Agency (EPA) Administrator Christie Whitman and U.S. Department of Labor Assistant Secretary for Occupational Safety and Health (OSHA) John Henshaw announced today that both Federal agencies are providing the public with extensive additional environmental monitoring data from the World Trade Center site and nearby areas in Manhattan, Brooklyn and New Jersey. Both agencies have taken hundreds of samples to monitor environmental conditions since September 11th, and have found no evidence of any significant public health hazard to residents, visitors or workers beyond the immediate World Trade Center area.

In response to public requests for more detailed information, EPA and OSHA are making the results of environmental and occupational sampling available on their sites on the World Wide Web (*www.epa.gov* and *www.osha.gov*), and will post additional data as it becomes available.

EPA and OSHA, working closely with other Federal, state, and local agencies, have been sampling the air, dust, water, river sediments and drinking water and analyzing them for the presence of pollutants such as asbestos, radiation, mercury and other metals, pesticides, PCBs, or bacteria that might create health hazards. They have found no evidence of any significant public health hazard to residents or visitors to the New York metropolitan area.

"EPA's website now has more detailed information on environmental monitoring information in New York City that should be very reassuring to residents, tourists and workers, and we will continue to update that site with information as it becomes available" said EPA Administrator Whitman. "Our data show that contaminant levels are low or nonexistent, and are generally confined to the Trade Center site. There is no need for concern among the general public, but residents and business owners should follow recommended procedures for cleaning up homes and businesses if dust has entered."

OSHA Administrator John Henshaw confirmed that workers on the site should take appropriate steps to protect themselves, but there is no threat to public health. "We have more than 200 staffers involved in a round-the-clock effort, continually monitoring conditions to ensure the safety and health of workers," Administrator

Henshaw said. "It is important for workers involved in the recovery and clean up to wear protective equipment as potential hazards and conditions are constantly changing at the site; however, our samples indicate there is no evidence of significant levels of airborne asbestos or other contaminants beyond the disaster site itself."

On the whole, despite questions about potential contaminants from the Trade Center site, EPA and OSHA data indicates there is no cause for general public concern. Residents and workers returning to buildings where dust from the Trade Center has entered the building should follow proper procedures in cleaning buildings, but the general public should feel very reassured about the extensive environmental monitoring data that has been collected and analyzed. Rescue and recovery crews working on the Trade Center site should take steps to protect themselves from potential exposure to contaminants by using respirators and washing stations as recommended by EPA and OSHA.

In total, EPA and OSHA have taken 835 ambient air samples in the New York City metropolitan area. EPA is currently collecting data from 16 fixed air monitors at Ground Zero and in the residential and business districts around the site, and both EPA and OSHA are using portable sampling equipment to collect data from a range of locations throughout the area.

Out of a total of 442 air samples EPA has taken at Ground Zero and in the immediate area, only 27 had levels of asbestos above the standard EPA uses to determine if children can re-enter a school after asbestos has been removed a stringent standard based upon assumptions of long-term exposure. OSHA has analyzed 67 air samples from the same area, and all were below the OSHA workplace standard for asbestos.

All 54 air samples from EPA's four monitors in New Jersey found no levels above EPA's standard. Another 162 samples were taken from EPA's monitors at the Fresh Kills landfill in Staten Island, where debris from the World Trade Center is being taken; only two exceeded EPA's standard.

Of 177 bulk dust and debris samples collected by EPA and OSHA and analyzed for asbestos, 48 had levels over 1 percent, the level EPA and OSHA use to define asbestos-containing material. Although early samples from water runoff into the Hudson and East Rivers showed some elevated levels of polychlorinated biphenyls (PCBs), dioxin, asbestos and metals, recent results find non-detectable levels of asbestos, and PCBs and polycyclic aromatic hydrocarbons (PAHs) and metals below the level of concern.

EPA and OSHA have also conducted sampling for the presence of metals (lead, iron oxide, zinc oxide, copper and beryllium) at Ground Zero and in surrounding areas. None of the levels of these metals have exceeded OSHA limits.

Although EPA has measured dioxin levels in and around the World Trade Center site that were at or above EPA's level for taking action, the risk from dioxin is based on long-term exposure. EPA and OSHA expect levels to diminish as soon as the remaining fires on the site are extinguished.

Of the 36 samples of volatile organic compounds (VOCs) taken around Ground Zero to assist response workers in determining the appropriate level of respiratory protection, several samples have been above the OSHA standard for workers. None presented an immediate risk to workers, and the levels are expected to decline when the fires are out.

Fact sheets with more specific information for various parts of the New York City metropolitan area are available:

- Environmental Information from Ground Zero at the World Trade Center Site.
- Environmental Information from Lower Manhattan for Residents, Area.
- Employees and Local Business Owners.
- Other Environmental Issues Related to the Attack on the World Trade Center.

LATEST AVAILABLE DAILY ENVIRONMENTAL MONITORING SUMMARY

Resources on the World Wide Web:

- U.S. Department of Labor's Occupational Safety and Health Administration.
- New York City Department of Health.
- U.S. Department of Health and Human Services.

ATTACHMENT 11

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 2,
*Edison, NY, October 5, 2001.*

Mr. KELLY R. MCKINNEY, *Associate Commissioner,*
*Bureau of Regulatory and Environmental Health Services,*
*New York, NY.*

DEAR MR. MCKINNEY: Health and safety concerns for workers as the World Trade Center Disaster Site (WTC) has been a concern from the beginning of the response. In addition to standard construction/demolition site safety concerns, this Site also poses threats to workers related to potential exposure to hazardous substances. Sources of hazardous substances include (1) building materials from the destroyed buildings (primarily asbestos), (2) hazardous materials that were stored in the buildings (refrigerants, hazardous wastes, ethylene glycol, compressed gas cylinders, etc.), and (3) products of combustion being emitted from the fires that continue to burn within the debris piles. EPA, along with a number of other Federal, State and your agency, has been gathering information about these threats to worker health. Air sampling by EPA and others indicates that asbestos and other contaminants are present in the air at the WTC. EPA has recommended, and continues to recommend, that workers at the Site were respiratory protection.

In addition, EPA has recommended, and continues to recommend, that workers utilize personal protective equipment and the personnel wash stations to prevent the spread of asbestos and other hazardous substances from the WTC to their homes, cars, public transportation, food service, locations, etc. We have observed very inconsistent compliance with our recommendations, however, we do not have authority to enforce the worker health and safety policies for non-EPA/USCG employees. Therefore, EPA believes the Incident Commander should adopt and enforce a site-wide Health and Safety Plan. If there is anything I can do to assist you concerning this matter, please feel free to call me at (732) 321–6656.

Sincerely yours,

BRUCE SPRAGUE, *Chief,*
RESPONSE AND PREVENTION BRANCH.

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ATTACHMENT 12

U.S. EPA REGION 2

NEWS

EPA ENVIRONMENTAL MONITORING DATA RELATED TO THE WORLD TRADE CENTER DISASTER RESPONSE AVAILABLE TO PUBLIC

EPA INVITES PUBLIC TO NEW INFORMATION REPOSITORY IN LOWER MANHATTAN

*FOR IMMEDIATE RELEASE: Tuesday, October 30, 2001*

(#01132) NEW YORK, NY—The U.S. Environmental Protection Agency has established an information repository containing environmental monitoring data gathered in response to the World Trade Center disaster. The information is available at the EPA library located at 290 Broadway in Lower Manhattan, which is the location of the agency's regional offices.

EPA began its environmental monitoring work on September 11th, shortly after the terrorist attacks occurred. Since then, the Agency has done extensive sampling and analysis of air quality and dust throughout Lower Manhattan and other potentially impacted areas, including Brooklyn, Staten Island and northern New Jersey. EPA also gathered data on drinking water and river water and sediments. All of this data is updated Monday through Friday and is available at EPA's regional library located on the 16th Floor at 290 Broadway in Lower Manhattan. The library is open to the public Monday through Thursday from 9 a.m. to 4:30 p.m. and on Friday from 9 a.m. to 1 p.m.

"We continue to closely monitor air quality and other environmental conditions in and around Ground Zero," said William J. Muszynski, EPA Acting Regional Administrator. "While we have fortunately not found levels of contaminants that pose a significant health risk to the general public, our efforts to monitor the area and keep the public informed of our findings have not waned. We welcome all concerned members of the public to our Lower Manhattan offices to review the information we've gathered and to visit our Web site."

Much of EPA's monitoring data, including data maps and general environmental summaries, is available at EPA's Web site at *www.epa.gov*.

# Attachment 13

mg_asbesto_air_s_mm2_Spreadshee

| SampleID | Address | SampleV olumeU nits | EndDate | BeginTime | EndTime | MCode | Detected | Sign | Result | Units | Comment | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 8.55 | f/mm2 | Front of 1927/1928 | |
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.002 | f/cc | Front of 1927/1928 | |
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | Front of 1927/1928 | |
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | Front of 1927/1928 | |
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | Front of 1927/1928 | |
| 11931 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | Front of 1927/1928 | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 11.46 | f/mm2 | Lobby | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.002 | f/cc | Lobby | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | Lobby | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | Lobby | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | Lobby | |
| 11932 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | Lobby | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 15.92 | f/mm2 | 1909/1910 | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.003 | f/cc | 1909/1910 | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | 1909/1910 | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | 1909/1910 | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | 1909/1910 | |
| 11933 | 100 Church St | 2160 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | 1909/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 7.64 | f/mm2 | 1902/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.001 | f/cc | 1902/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | 1902/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | 1902/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | 1902/1910 | |
| 11934 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | 1902/1910 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 7 | f/mm2 | Alley 1960 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 0.001 | f/cc | Alley 1960 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | Alley 1960 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | Alley 1960 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | Alley 1960 | |
| 11935 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | Alley 1960 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 7 | f/mm2 | Alley 1941 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 0.001 | f/cc | Alley 1941 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | Alley 1941 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | Alley 1941 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | Alley 1941 | |
| 11936 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | Alley 1941 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 21.66 | f/mm2 | 1935/1937 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.004 | f/cc | 1935/1937 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | 1935/1937 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | 1935/1937 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | 1935/1937 | |
| 11937 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | 1935/1937 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 7 | f/mm2 | 1835/1837 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 0.001 | f/cc | 1835/1837 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | 1835/1837 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | 1835/1837 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | 1835/1837 | |
| 11938 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | 1835/1837 | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 7 | f/mm2 | 18th Floor SW Corner | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Not Detected | < | 0.001 | f/cc | 18th Floor SW Corner | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | 18th Floor SW Corner | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | 18th Floor SW Corner | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | 18th Floor SW Corner | |
| 11939 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | 18th Floor SW Corner | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 30.57 | f/mm2 | Front of 1927/1928 | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | PCM NIOSH 7400 | Detected | | 0.005 | f/cc | Front of 1927/1928 | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S<5u | Front of 1927/1928 | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | | 0 | S>5u | Front of 1927/1928 | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 20 | S/mm2 | Front of 1927/1928 | |
| 11940 | 100 Church St | 2400 L | 10/23/2001 | 12:00:00 PM | 04:00:00 PM | TEM (AHERA) | Not Detected | < | 0.0032 | S~f/cc | Front of 1927/1928 | |
| 16370 | 26 Federal Plaza (13th Floor) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0084 | f/cc | | Chrysotile |
| 16371 | 26 Federal Plaza (13th Floor) | | 9/13/2001 | | | TEM (AHERA) | Not Detected | < | 0.0033 | f/cc | | |
| 16376 | 26 Federal Plaza (28th Floor) | | 9/13/2001 | | | TEM (AHERA) | Not Detected | < | 0.0038 | f/cc | | |
| 16375 | 26 Federal Plaza (38th Floor) | | 9/13/2001 | | | TEM (AHERA) | Not Detected | < | 0.0039 | f/cc | | |
| 16374 | 26 Federal Plaza (39th Floor) | | 9/13/2001 | | | TEM (AHERA) | Not Detected | < | 0.0038 | f/cc | | |
| 16372 | 26 Federal Plaza (Lobby South) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0072 | f/cc | | Chrysotile |
| 16373 | 26 Federal Plaza (Lobby West) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0037 | f/cc | | |
| 27492 | 290 Broadway (22nd Floor North) | | 9/13/2001 | | | TEM (AHERA) | Not Detected | < | 0.0041 | f/cc | | |
| 27493 | 290 Broadway (22nd Floor South) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.004 | f/cc | | Chrysotile |
| 27490 | 290 Broadway (8th Floor) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0042 | f/cc | | |
| 27494 | 290 Broadway (LL-1) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0133 | f/cc | | Chrysotile |
| 27495 | 290 Broadway (LL-2) | | 9/13/2001 | | | TEM (AHERA) | Detected | | 0.0044 | f/cc | | Chrysotile |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 27491 | 290 Broadway (Lobby) | 9/13/2001 | | TEM (AHERA) | Not Detected | < 0.0043 | f/cc |

ATTACHMENT 14

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 2

NEWS

*FOR RELEASE: Monday, March 25, 2002*

FEDERAL, STATE AND CITY AGENCIES ANNOUNCE ACTIONS FOR LOWER MANHATTAN AIR QUALITY

(#02114) New York, NY.—Today the Environmental Protection Agency (EPA), along with New York City and other Federal and State agencies, announced additional actions to address outdoor and indoor air quality. As part of the overall effort to continue to protect air quality, DEP will remove residual debris from rooftops and facades with EPA's guidance. OSHA will work in a coordinated effort with the City and EPA to ensure the safety and health of the workers performing this cleaning.

EPA and New York City will expand the program to remove residual debris from rooftops and facades around the World Trade Center site. In addition, agencies will work to build on an indoor air study conducted in November and December. These actions are a result of the collaborative efforts of the EPA Administrator Christie Whitman's Task Force on Indoor Air and New York City Mayor Michael Bloomberg's Lower Manhattan Air Quality Task Force.

"Actions speak louder than words, and these actions will help increase confidence about outdoor and indoor air quality," said Jane Kenny, EPA Regional Administrator. "We have been working hand-in-hand with the city to resolve the public's health concerns."

"I am extremely pleased that EPA continues to work with the City to address concerns regarding air quality in Lower Manhattan," said incoming DEP Commissioner Christopher Ward.

Tests conducted since September 11th have indicated that there is no evidence of significant long-term health risks to residents and office workers from the air quality in Lower Manhattan. Inspectors from the City and EPA have surveyed area rooftops and facades identifying buildings where residual debris remains. As removal of debris from the World Trade Center site nears completion, city, State and Federal agencies are committed to continuing to protect and improve the downtown environment.

City, State and Federal health and environmental agencies are working collaboratively to continue to assess the cleaning that was conducted and determine testing criteria. Building on earlier tests, EPA will conduct field work to assess cleanup techniques and provide information for ongoing cleaning. The Agency for Toxic Substances and Disease Registry, with support from the New York City Department of Health and EPA, is planning to expand the indoor air study conducted in December 2001.

As these projects are developed, the Federal Emergency Management Agency (FEMA) will fund components that are eligible under its programs. As the agency responsible for coordinating Federal assistance in support of the city's long-term recovery efforts, FEMA is working closely with all concerned agencies.

Both the EPA and New York City Task Forces will work cooperatively to continue to protect air quality. The Lower Manhattan Air Quality Hotline (212–221–8635) will continue to be the principal point of information dissemination to businesses, residents and visitors regarding air quality and environmental issues in and around the World Trade Center site. The City's Task Force will also coordinate additional community outreach and local initiatives as part of the broader effort to build public confidence in the downtown environment.

For more information, call the City's Lower Manhattan Air Quality Hotline at 212–221–8635 between 11 a.m. and 7 p.m. Monday through Friday. In addition, information can be found on: EPA's Web site at: *www.epa.gov;* OSHA's Web site at: *www.osha.gov;* NYC DOH's Web site at: *www.ci.nyc.ny.us/html/doh/home.htm*; and NYCDEDP's Web site at: *www.nyc.gov/html/dep/html/airmonit.html*.

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